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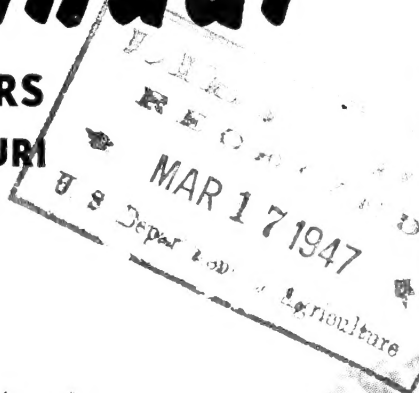
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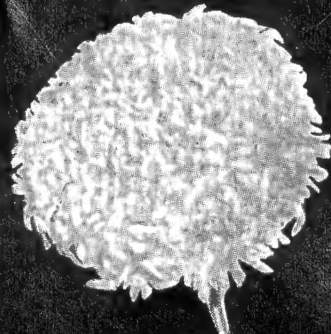
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# Craig Brothers Garden Annual

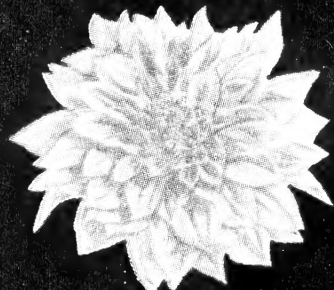
CRAIG BROTHERS  
MEMPHIS, MISSOURI



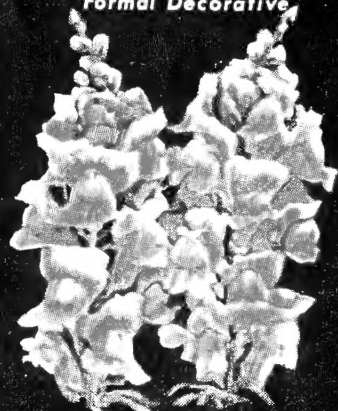
**TOMATO**  
*Ponderosa or Beefsteak*



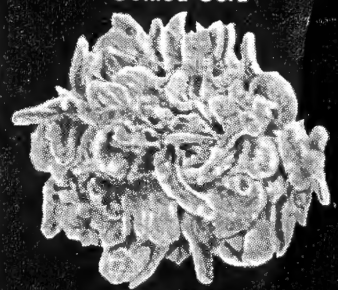
**MARIGOLD**  
*Mammoth Mum*



**DAHLIA**  
*Formal Decorative*



**ANTIRRHINUM**  
*Guinea Gold*



**LETTUCE**  
*Oakleaf*

THE COMPLETE  
HOME  
GARDENING  
GUIDE

1947





# From one gardener to another

Gardeners, the country over, are neighborly people.

So we think it's important to note that this Garden Annual comes to you from a neighbor.

It is a localized garden book, not a national one.

We're sure you'll find a book of this type more interesting and more useful than the more generalized books which come from afar. We want you to receive it as a friendly message from one neighbor to another.



## Anticipating one important question . . .

We can report that vegetable and flower seeds of every type are in good supply once more.

In garden supply lines, metal shortages are still holding back the production of some items. The situation here is improving, but is not yet normal. We have done our best to take care of our customers' needs — and can assure you "if it's available, you can get it here!"

## About items not listed here . . .

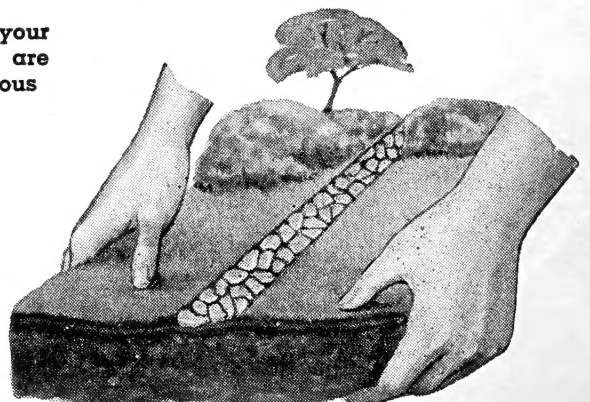
We have devoted a great deal of space in this book to pure gardening information. Our lists of seeds and supplies are therefore held down somewhat. All the truly essential items are here. But if you seek items not listed, please ask us for them. If we don't have them in stock, we'll undoubtedly know where to get them for you.

## About flowers . . .

Interest in growing food at home will still run high. But a great many gardeners who gave up the joy of flower gardening during the war years tell us they are going to make up for lost time now. We have built up our stocks of flower seeds accordingly — and have a wonderful assortment ready for you.

Remember—we know your lawn needs and we are exceedingly conscientious in taking care of them. So —

**"Put your lawn in our hands."**



**NON-WARRANTY CLAUSE** — Success with seeds, bulbs, etc., depends largely on weather conditions and proper cultivation, so in accordance with the universal custom of the seed trade we give no warranty, express or implied, as to the productiveness of any seeds, bulbs or plants we sell and will not be in any way responsible for the crop. Our liability is limited to the purchase price of the seed, bulbs or plants.

This Garden Annual of ours is far more than a seed catalog. As you'll soon see, it is a very complete gardening book.

From end to end, we've crowded this book with practical, usable facts on how to make your garden more fruitful and your home more beautiful. Whether you're an oldtimer or new at gardening, you'll find invaluable help here.

So keep this book on hand throughout the season! The more you use it, the better your garden will be!

• • •

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# For Sale — BETTER LAWNS



## We offer you 4-WAY SERVICE

### 1. The right seed

The "better lawns" we sell here get their start with the *right seed* . . . seed carefully selected for the growing conditions of this territory—and for the particular needs of your own lawn.

### 2. The right foods

Whatever the feeding problems of your lawn, we have the right plant foods for it. All-purpose lawn foods or special fertilizers for special conditions—they're all here for you, in any amount you need.

### 3. Tested weed controls

The weeds in your lawn will be fighting a losing battle if you let us furnish your ammunition. We have the full range of weed controls to choose from—and can show you how to vanquish lawn weeds easily and surely.

### 4. Complete lawn know-how

Last, but perhaps most important of all, our 4-way lawn service includes competent advice whenever you want it—advice based on thorough knowledge of the lawn problems of this particular territory. We have the necessary know-how—and it's at your command!

## DEPENDABLE LAWN SEEDS

### Chewings Fescue

Widely used for putting greens and fairways. Produces thick, durable turf, even under unfavorable conditions.

### Bent

Makes a thick, dense turf on heavy, sour soils and being of a semi-creeping habit will recover the ground after injury. Unexcelled for fine lawns and putting greens.

### White Clover

Very desirable in lawn mixtures because of its rapid, low growth and creeping stems. Valuable as a green cover for poor ground.

### Rye Grass

A rapid grower, valuable in mixtures demanding quick effect. Not long lasting. Good in moist soils.

### Kentucky Blue Grass

Produces a deep dark green lawn of close, thick turf. Maintains its green color until late in fall. Roots are deep, plants very hardy.

### Red Top

Particularly suitable for wet, low spots, as it stands wet weather, or even overflowing, better than other grasses. Also does well on almost any good, rich soil. Often thrives where blue grass fails—and therefore makes an excellent supplement for it.

### Our finest Lawn Mixture

Our selected lawn mixture is a combination of the finest quality seeds—which we have developed after years of experience. All the grasses in it are fine-bladed and deep-rooting. There just isn't any better combination than this for the lawns of our territory!

### Our special Shade Mixture

Our shade lawn mixture is a scientifically developed blend of top quality shade enduring grasses and clovers. We've been getting excellent results with it for years and believe it will produce results anywhere that grass can be made to grow.

## How much seed? What kind? What price?

In figuring how much seed you need, remember "skimpy" seeding is the most costly in the long run. Plant enough to get a thick, heavy mat of grass and you'll need far less re-seeding.

The wise minimum for new lawn planting may be figured from this table:

Size of Plot	Square Feet	Amt. of Seed
10 x 20	200	1 lb.
20 x 50	1,000	5 lbs.
20 x 100	2,000	10 lbs.
50 x 100	5,000	25 lbs.
100 x 100	10,000	50 lbs.

For re-seeding, use half these amounts.

**What kind of seed?** The only safe answer to this question is, "It all depends!" Climate, amount of sun or shade, soil conditions, drainage, slope, all must be considered.

That's why we suggest that lawn seed should be bought from a merchant who can weigh all these factors—and

help you to get the right answer.

**What price?** How much should you pay for lawn seed? Well, there's no getting away from the fact that low priced seeds are actually the most costly. They give you less coverage; hence you have to plant more. They don't last as long; hence, you must replant more often. They don't make the type of dense turf that crowds out the weeds. So, whatever the price of lawn seed at any given time, buy the finest you can get! You'll save money—and have a better lawn!

Whenever you see a beautiful lawn, anywhere in our territory, it's more than likely that we furnished the seed. WE SELL GOOD SEED—and we know a great deal about lawn building. So it's only natural that we have a great many living advertisements for our Lawn Seed Department hereabouts.



Ask For Our  
**LATEST LIST**  
of Varieties and Prices

# FARM SEEDS

We offer complete stocks and service

## ALFALFA

A marvelous soil builder and soil restorer. We carry a full range of varieties, all well suited to this territory.

## CLOVERS

**Alsike**—Very hardy. Does better on moist land than other varieties of Clover. Suitable for hay or pasture.

**Medium Red**—The most valuable of the Clover family. Makes two crops the second year. Does not exhaust the soil, but enriches it.

**Sweet, White Blossom**—Most abundant growth of any of the Clovers. Makes a pasture earlier than other crops and will keep stock in good condition until winter regardless of heat and drought. Use to build up worn out fields.

**White Clover**—Very desirable in lawn mixtures because of its rapid, low growth and creeping stems. Valuable as a green cover for poor ground. Very hardy.

## GRASSES

**Brome Grass**—Drought defying, resistant to frost and extreme heat alike. Starts 2 to 3 weeks earlier than native prairie grasses, and stays green later in

fall. Produces abundant pasturage and enormous crops of high grade hay.

**Kentucky Blue Grass**—Produces a deep dark green lawn of close, thick turf.

## SEED CORN

More and more, the problem of choosing seed corn is becoming a local problem. It's of prime importance to have the varieties that best fit your own growing conditions.

Our selection is built on intimate knowledge of this district.

Maintains its green color until late in fall. Roots deep, plants hardy. Considered by many as our most valuable native grass. Being slow to germinate, use in combination with other grasses, especially in making a new lawn. Our stock is thoroughly re-cleaned to eliminate chaff, weed seeds and other foreign matter.

**Orchard Grass**—Hardy, quick-growing. Gives a large yield of excellent hay. May be cut several times during season. Not recommended for lawn use.

**Rape**—One of the very finest pastures for economical production of pork, mutton, or beef. A good crop gives you 12 to 15 tons of green food per acre.

**Rye Grass, Domestic** — Fast-growing one-year grass. Yields abundantly, and matures all in one season. Helpful as a nurse crop to other grasses.

**Rye Grass, Perennial** — An excellent nurse grass when quick turf is needed. Does well on moist soils but not long lasting.

**Sudan**—The ideal emergency hay and pasture crop for late planting. Never plant until the ground is warmed.

**Millet, Hungarian**—Matures a week or so earlier than Golden Millet so can be sown later. Makes fine quality hay.

**Chewings Fescue**—A vigorous growing fine-bladed grass especially valuable for terraces and shady places. Very resistant to heat, drought.

## BENT GRASS

**Astoria**—An attractive dark green fine-bladed grass for fine lawns and putting greens. Best of the bents for lawns.

**Seaside**—The true creeping type. Forms dense sod of beautiful dark green. Will stand close cutting and resists hard wear. Excellent for putting greens.

**Red Top**—Particularly suitable for wet, low spots, as it stands wet weather better than other grasses. Also does well on almost any good, rich soil. Often thrives where blue grass fails.

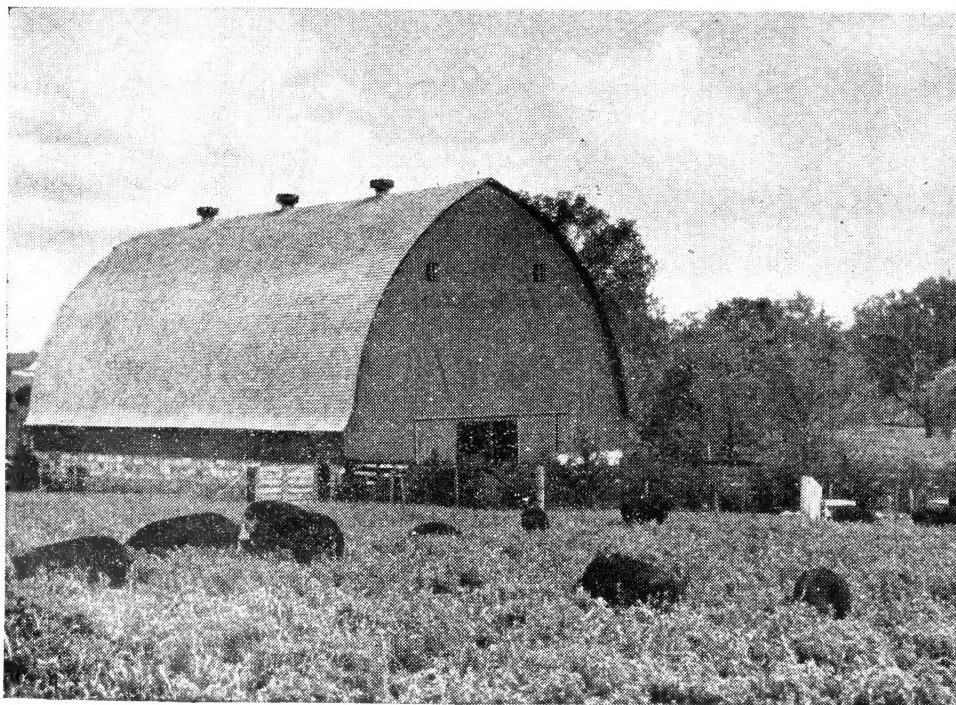
**Soy Beans**—The crop of many purposes. Excellent for hay, ensilage, grain, and soil improvement. Ground soy beans are as good or better than Oil Meal for mixing with grains in a balanced dairy ration.

**Timothy**—Unsurpassed as a crop for hay. Relished by all kinds of stock, especially horses. Not suited for permanent pasture.

**Vetch**—A great producer, for hay, pasture, or silage. Good cover crop and soil builder. May be sown spring or fall, is not particular as to soil, and needs only moderate moisture.

## SEED POTATOES

Our Certified Stocks are the most economical you can plant, because they reduce your hazards, give you bigger production and fewer culls. They are true to name . . . grown especially for seed stock . . . more highly disease resistant . . . tagged for origin.





# 179 BEST VEGETABLE SEEDS

**In Packets  
Or in Bulk**

We offer fresh seeds,  
in handy small pack-  
ets, or weighed out  
for you in bulk, as  
you prefer. Ask for  
prices on large bulk  
lots.

## ...selected for RESULTS in your garden

From among all the thousands of available varieties, we have selected those which will produce the best quality and the greatest yields in the gardens of our territory. Lengthening this list would serve no really useful purpose, but would only complicate your garden planning. So we offer you this compact selection as a safe, sound base for your plans.

### ASPARAGUS

Seed should be soaked 24 hours before planting—and covered 2" deep in the garden. Thin young plants to 1" apart. Cultivate often. Set in permanent beds in spring.

**Mary Washington (fr)**—Thick, tall green spears with purple tops. Highly rust resistant. Rapid growing. Tender.

### BEANS

#### Green Podded, Dwarf or Bush

Do not plant until danger of frost is past. Press soil firmly around seeds. Thin young plants to about 6" apart. Cultivate only before blooming and never when wet. Pick frequently. Make plantings every two weeks for supplies throughout the season.

**Black Valentine Stringless**—Hardy, early maturing, very productive. Pods, dark green, 6-6½-inches long, brittle, smooth, stringless. Seeds black. 51 days.

**Bountiful (fr)**—An early, heavy-yielding variety. Flat, light-green, stringless, slightly fibrous. 49 days.

### ALL OUR VEGETABLE SEEDS

**10c PER PACKET**

**Unless  
Otherwise Noted**

We feature money-saving prices for bulk quantities—and special quotations to market gardeners. (Prices subject to change without notice.)

**Giant Stringless Green Pod (fr)**—Large, sturdy plants. Meaty, round pods, brittle, strictly stringless. Medium green pods. Oval, yellowish-brown seed. 54 days.

**Plentiful**—Productive, early. Flat, medium green pods, 6 to 7-in. long, strictly stringless. Choicest quality. All-America Bronze Medal 1939. 51 days.

**Tendergreen**—Large, erect plants. Abundant, round, dark-green pods, strictly stringless and fleshy. 54 days.

**Tenderlong (fr)**—Fine new variety, resembling Stringless Green Pod, but with taller, darker green plants, and slightly longer pods. Yields high percentage of fancy smooth, trim, round pods, even under adverse conditions. Seed color like Stringless Green pod, except with dull seed coat. 6½ in. long. 52 days.

#### Wax Podded, Dwarf or Bush

**Golden Wax**—A home garden favorite. Small, erect plants, moderately productive. Straight, thick, flat pods, yellow, stringless. 51 days.

**Sure Crop Stringless**—Handsome, rich yellow pods. Sturdy, brittle. 6-6½ in. long. Strictly stringless. 53 days.

#### Lima Beans, Dwarf or Bush

**Baby Potato (fr)**—1940 All-America. Small, thick-seeded butter bean with real

flavor, early maturity and prolific growth. 12 to 16 in. tall. 72 days. 15c.

**Burpee's Improved Bush (fr)**—Best of flat seeded bush limas. Pods contain four or five large beans of excellent quality. 75 days.

**Fordhook Bush (fr)**—Straight pods with plump, large beans, excellent quality.

**Henderson's Bush (fr)**—Known as Baby Lima or Butter Bean. Plants small, early and bushy. 65 days. Very productive.

#### Pole Beans

Plant about same time as Bush Beans. Poles 5' to 8' long should be driven into ground in rows about 4' apart with spacing of 3' in row. Run rows north and south. Plant 5 to 8 beans around each pole, thinning to 4 plants later.

Caution: To avoid spreading plant diseases, do not cultivate or pick when plants are wet.

**Kentucky Wonder (Old Homestead) (fr)**—Strong climber, hardy, long-bearing. Curved, almost round pods. Slightly stringy but meaty. 65 days.

**Kentucky Wonder Wax**—Very popular. Vigorous, good climbing plants, waxy-yellow pods, flat and nearly stringless. Somewhat fibrous but meaty. 68 days.

**Yard Long**—Cowpea group. Oval, fleshy, fibreless and tender with red-brown seed. Pods 8-10 in. long. 70 days.

## All Vegetables Marked "fr" are especially suited for freezing

If you have a home freezer, or a neighborhood locker plant near by... keep that fact in mind when you plan your vegetable garden this year! Freezing keeps the bright color, fresh flavor, and precious vitamins of just-picked vegetables... and you'll want plenty on hand for healthy, thrifty year-round eating.

We've indicated the best varieties for freezing by the symbol "fr" after the variety name. But you're not necessarily limited to these. Almost any vegetable frozen when young and succulent is generally good... except those served for crispness, such as lettuce, celery, radishes, etc.

Whole tomatoes, and vegetables with high starch content are not recommended for freezing.

Freeze only the best quality vegetables! Wash and sort them carefully... discarding any that are overripe, bruised or show signs of decay. Process quickly according to tested directions. Pack and seal in leak-proof cartons that can be taken to the freezing unit immediately.

Properly prepared and frozen vegetables stay good for as long as eight months to a year. By wise planning, you can freeze all the vegetables your family will need this year!



## BEANS, Continued Lima Beans, Pole

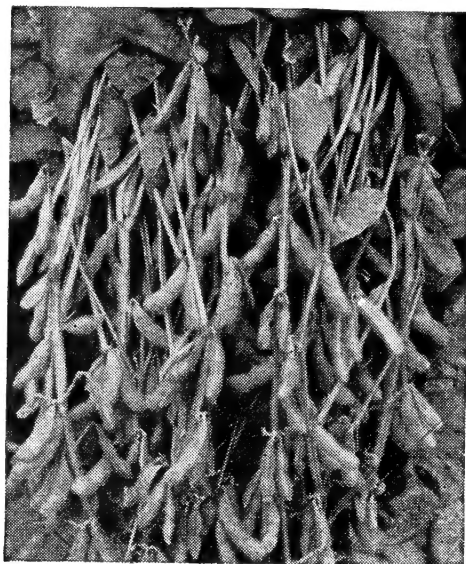
**King of the Garden (fr)**—Flat, smooth pods with four or five white, large, flat beans. 88 days.

**Small Sieva**—Plant 10 to 12-ft. tall, and bears over a long season. Medium green pods with three to four beans of excellent quality. 77 days.

## BEANS, SHELL

**Navy**—Small seed, almost round and white. Hardy, prolific. Most popular for baking. 95 days.

**Red Kidney**—Pods 6-7 in. long. Flat, large beans, pinkish red to mahogany in color. Rich flavor. 95 days.



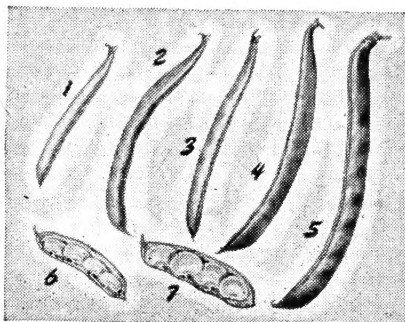
**Soy (Edible)**—Plants are extremely productive, vigorous and upright. Beans may be used green or dry. 95 to 110 days.

**White Marrowfat**—Pods grow 4½-5 in. Well filled with 5 or 6 large white beans. Valued for baking. 100 days.

## BEETS

Plant about same time as radishes in deep, sandy loam. Have soil fine and loose and press down firmly around seed. When tops are 3" to 6" tall pull them and use for cooked greens. Continue this until roots stand 6" apart. Plant every 10 days or so.

## THE OLD GARDENER reminds you



Yes, beans are a mighty important crop, for most of us. They're worth a little extra care. There's inoculation, for instance. Certain bacteria that

live on the roots help the bean plant pull nitrogen out of the air and "fix" it so the plant can use it for food. By inoculating the bean seed before you plant, you can help them grow into big and husky plants that keep on producing longer.

It's easy to plant bean seeds too deep: the seeds look robust and there's a temptation to pile dirt on top of them.

**Crosby's Egyptian (fr)**—Extra early. Flattened globe shaped roots with small dark red top root. Excellent quality, tender, sweet. 60 days.

**Detroit Dark Red (fr)**—Standard of excellence in table beets. Smooth, globular roots of deep ox-blood red—sweet, tender. 68 days.

**Early Wonder**—Early variety that can also be used for fall planting. Semi-globular, tender, blood-red flesh. 58 days.

## BROCCOLI

**Italian Green Sprouting**—Plant bears a succession of sprouting heads about 5 in. long, which, if kept cut, will be replaced by others for 8 to 10 weeks. 55 to 65 days. Pkt. 10c.

## BRUSSELS SPROUTS

Easy to grow wherever conditions are favorable for late cabbage, and requires same culture.

**Long Island Improved**—Compact, uniform dwarf size plants. Cabbage-like sprouts 1¼-1½ in. in diameter. One of the most dependable varieties. 90 days.

## CHINESE CABBAGE

An easily raised succession crop. Set out in rows which have been occupied by earlier vegetables.

**Chihili or Improved Pekin**—Dependable, early. Solid, tapered heads, 3 to 4-in. thick, 18 to 20-in. long. 75 days. Pkt. 10c.

## CABBAGE

Set out as soon as frost danger is past. Use plenty of good commercial fertilizer. Cultivate frequently, every 5 or 6 days until cabbages are large. For winter storage, stand plants upright in cold cellar, with roots in sand. Slight freezing will not harm cabbage.

## Yellows Resistant Varieties

**Yellows Resistant Golden Acre**—Extra early Copenhagen type. Dwarf plants, small, round, solid, 6-in., 3-lb. heads. 63 to 65 days.

**Yellows Resistant Marion Market**—Large, firm, round heads, used for early kraut. A development from Copenhagen Market. 7-in., 4-lb. heads. 75 to 80 days.

*All Vegetable Seeds*  
**10¢ PER PACKET**  
UNLESS OTHERWISE NOTED

In bulk at money-saving prices.  
Special quotations to market gardeners.  
Prices subject to change without notice.

**Yellows Resistant Wisconsin All Seasons**—Mid-season all-purpose variety, slightly coarser than standard All Seasons. 10 to 12-in., 9 to 10-lb. heads. 90 to 95 days.

**Yellows Resistant Wisconsin Hollander**—Late, excellent for winter storage and kraut. Similar to Hollander and Danish Ball Head. 7 to 8-in., 7 to 9-lb. heads. 100 to 110 days.

## Standard Early Varieties

**Charleston Wakefield**—Pointed-head, large, hardy. Splendid first early cabbage for home use. Plants medium, vigorous, slightly spreading. Leaves rather large, smooth and thick. 71-75 days.

**Copenhagen Market**—Excellent, early short season type. Short stems, 6½-in., 3½ to 4-lb. heads. 65 to 70 days.

**Early Jersey Wakefield**—Pointed heads, small and firm. Earliest pointed variety. Plants compact. 62 days.

**Golden Acre**—Extra early variety producing uniform well-balanced head. Weighs about 3 lbs. Excellent quality. 65 days.

## Late or Winter Varieties

**Danish Ball Head or Hollander**—A widely used late type. Deep, round, hard, compact heads, 7 to 8-in., 6 to 7-lb. Tender, crisp, fine for kraut. 100 to 105 days.

**Perfection Drumhead Savoy**—Heads round, hard, compact. Leaves deep green, coarsely crimped, dark green. Keeps well. 90 days.

## Red Varieties

**Mammoth Red Rock**—Best of the red cabbages. Hard, round. Purplish-red heads. Good keeper, 6 to 8-in., 7 to 8-lb. heads. 100 days.

## CARROTS

Sow early and thinly—in light, deep soil, preferably fertilized the previous season. Thin plants when about 2" tall. Keep on cultivating frequently throughout season.

**Chantenay, Red Cored (fr)**—Root has thick shoulder and tapers to slight stump root, 5-in. long. Red cored. 70 days.

**Danvers Half Long**—Sweet, tender roots, 6 to 7-in. long tapering to a blunt point. Fine for storing. 75 days.

**Imperator (fr)**—Fine-grained, tender. Rich orange, indistinct core. Smooth, tapered to semi-blunt. 77 days.

**Nantes Improved Coreless (fr)**—Excellent for forcing. Tops small, roots bright orange, blunt ended. Flesh reddish orange and practically coreless. 70 days.

**Oxheart or Guerande**—Excellent for shallow soil, easy to harvest. Chunky, tender and sweet. Bright orange. Keeps well. 72 to 75 days.

Don't do it; in early spring when the soil is moist, half an inch is enough. In summer (and remember that you can make a succession planting every three weeks) an inch of covering is enough.

Beans can be kept going a long time by picking clean, but you'll get more beans

per square foot by making several small plantings spaced 3 weeks apart.

The beans illustrated here (to give you an exact comparison of their sizes) are—1—Improved Golden Wax; 2—Giant Stringless; 3—Tendergreen; 4—Bountiful; 5—Kentucky Wonder; 6—Henderson's Bush Lima and 7—Fordhook Bush Lima.



# HOW? WHEN? WHERE? WHY?

Practical answers to every-day questions about home gardening

This is a seed catalog you can keep on using long after you've bought and planted your seed!

It is jammed with down-to-earth facts every gardener needs to know. Even old-timers will find help here. You'll find most of these facts grouped under the heading "How? When? Where? Why?" Read them carefully, keep them handy—and use them all through the year.

Location, soil and layout of the vegetable garden may be fixed by the land you have. You can, however, improve many things about that land if you have two basic requirements: (1) at least 6 hours of sunshine daily and (2) reasonably good soil, free from tree roots, subsoil and rubbish fill.

## Is your soil right?

Heavy clay should be broken up by using compost, manure, peat moss or other vegetable matter. Liming also helps. Stuff sandy soils with all the manure or other organic matter you can spare. Fertilizers, however, should be relied upon to feed crops for a good harvest (see page 34).

## The high cost of guessing

Substitute headwork for arm and back-aches by making a simple plan on paper. This saves you seed—and other materials—and labor—because you plant only what you need. When you plant by guess usually you plant too much. You must take care of the extra planting until harvest time before you see it won't be needed. If you underestimate your needs, then you don't have the food you need. See Page 18.

## New ideas on garden layout

D.D.T. for pest control promises to change the whole scheme of garden layout. We can now divide vegetables into two groups—one to be dusted with D.D.T. and the other to be left undusted. The D.D.T. plot should be on the lee side so that wind will not drift from it into those which should not be dusted.

This puts the following vegetables on the side away from the wind—bush and pole beans, limas, beets (unless you want to eat the thinnings as greens), carrots, sweet corn, eggplant, okra, onions, parsnips, peas, peppers, radishes, tomatoes and turnips (again, only if you don't eat the greens).

Facing the wind should be the vegetables not to be dusted, including Brussels sprouts, cauliflower, Chinese cabbage, collards, cucumber, endive, kale, kohlrabi, lettuce, muskmelon, parsley, pumpkin, rhubarb, spinach, squash, Swiss chard and watermelon. In general, rows get better distribution of sunshine if they run north and south. If this arrangement isn't necessary, better put corn and other tall crops to the north of the shorter crops. Sweet corn should not be planted in one or two long rows, but in several short rows (see page 14).

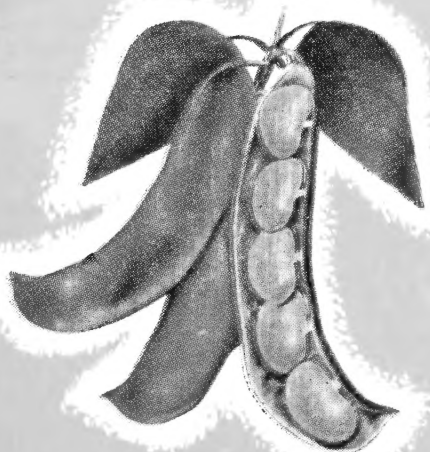
## Working your soil full time

Even if you have ample room, it will pay to consider intercropping, catch cropping and succession cropping. In intercropping, short season crops go between slower, growing plants that occupy the land all season. For instance, plant early lettuce between the tomato plants, and harvest it before the tomatoes need all the room.

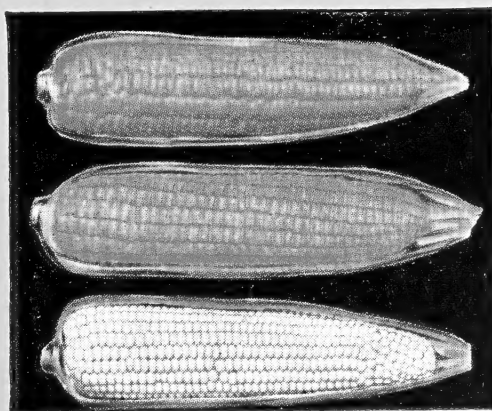
In catch cropping we plant an early crop on land before the main crop goes in. In succession cropping the main crop comes first, as for instance a crop of snap beans to be followed by late turnips. These tricks use space efficiently and also reduce the number of rows we have to plant. Too, in this way, we can broadcast fertilizer before plowing or digging rather than applying it along the row when the plants are partially grown.

**Don't plant in wet ground.** No soil is right for gardening that can't pass the "mud pie" test. To make a mud pie test, pick up a handful of soil and squeeze it slightly. If it balls or packs, it is too wet to work.

**Don't apply lime unless it is really needed.** Usually a soil that will grow good beets is all right. If beets do poorly and grow irregularly, you can add about 50 lbs. of hydrated lime or 100 lbs. of ground limestone to each 1,000 square feet of garden. If you have a pH tester, most flowers and vegetables will do well in a soil between 6.0 and 7.0.



BEANS, Fordhook Bush Lima



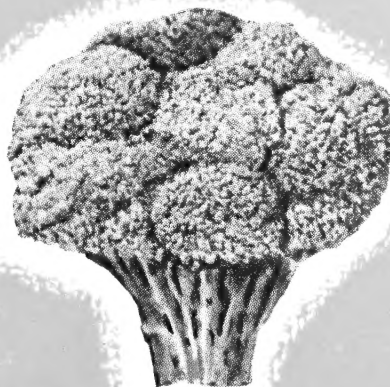
CORN, Golden Cross Bantam (Top)  
Iona (Center)  
Stowell's Evergreen (Bottom)



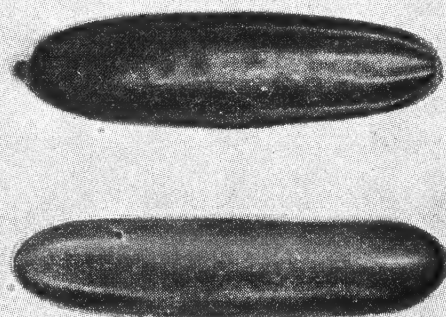
BEANS, Tendergreen



BEANS, Plentiful



BROCCOLI, Italian Green Sprouting



CUCUMBERS, Marketer (Top)  
Straight Eight (Bottom)



## CAULIFLOWER

Follow same methods as for cabbage except that heads must be protected from sunlight to assure the desirable white curd. Gather and tie the tops of leaves together loosely to shut off light. Do not cramp the heads.

**Early Snowball (fr)**—Best and most widely used early variety. Medium, firm compact heads of fine flavor. 6-7 inches in diameter. 55 days. 25c pkt.

## CELERIAC

**Giant Smooth Prague**—(Turnip rooted celery). Smooth spherical roots. 2 to 3-in. thick. 120 days. Pkt. 10c.

## CELERY

**Giant Pascal**—Late variety for winter use. Large plant, dark green leaves. Big solid stalks that blanch to yellow white. 135 days.

**Golden Self Blanching, Dwarf**—Compact plants, yellowish green foliage. Broad solid stalks, nutty flavor. Blanches readily. 120 days.

**Wonderful or Golden Plume**—Early, medium plant with compact, full heart. Blanches easily to golden yellow. 112 to 115 days.

## CHICORY

**Witloof (French Endive)**—Compact, blanched head. Crisp, broad leaves having pleasant sharp flavor. Must be reset in cold frame or greenhouse in north. 140 to 160 days.

**Large Rooted (Magdeburg)**—Dried roots are roasted and mixed with ground coffee. Roots 12 to 14 in. long, tapered from 2 in. at top. 120 days.

## COLLARD

Sow seed thickly in rich ground and transplant when about 4" high—or if plants are to remain where sown, spread the seed more thinly, and when young plants are well started, space them out to 2' or 3' apart in the row.

**Southern or Georgia**—An excellent cooked green. Long stemmed plant, with clustered leaves. Withstands heat and bad soil. 24 to 36 days.

## SWEET CORN

Do not plant until all danger of frost is past. Be sure soil is well worked and dry—then drop 6 kernels of corn in a shallow hole made with the corner of the hoe. Cover each "hill" with about 1" of fine soil pressed down firmly. When 6" high, thin to three or four plants in each hill.

## Hybrids

We offer Hybrid Sweet Corn varieties known and grown the country over—the finest that can be procured anywhere. We list here only a few of these choice kinds. Whatever your needs or your preference, be sure we can supply you with the kind of corn you want. Talk it over with us.

**Golden Cross Bantam (fr)**—Extremely uniform. Ears 10 to 14 rows, slightly lighter yellow than Golden Bantam. Highly resistant to Stewart's disease. 85 days.

**Joana (fr)**—1940 All-America. Ears 7½ to 8-in., well filled with 12 or 14 rows of deep, medium narrow, light yellow kernels. Highly resistant to drought and bacteria wilt. 87 days.

**Marcross (fr)**—An early wilt-resistant yellow hybrid, producing deep golden yellow kernels 7 days earlier than Golden Bantam. Ears 6 to 7-in. long, with 12-14 rows of large sweet kernels. 73 days.

**Stowell's Hybrid Evergreen**—White. Large ears about 8-in. long; big kernels, very sweet. One of the best late varieties. 95 days.

## Open-Pollinated

**Bantam Evergreen**—A cross of Golden Bantam on Stowell's Evergreen. 14 to 18 rows. Deep, rich golden kernels, tender, sweet. 90 days.

**Black Mexican**—Pure white corn with purplish-black seed. Ears are 7 to 8 in. long, 8 rows. Cylindrical straight rowed. 88 days.

**Country Gentleman or Shoe Peg (fr)**—Prolific late variety. Favored by canners. Irregular kernels, very deep, slender, sweet. 93 days.

**Golden Bantam**—The best and most favorably known of all the yellow varieties. Stalks often have 2 ears. Ears 8 rowed, kernels broad, with tender hull,

sweet and of very fine flavor. 80 days.  
**Stowell's Evergreen**—A splendid late variety. White, about 8-in. long with large, sweet kernels. 95 days.

## POP CORN

**South American**—Large eared yellow sort, enormous when popped. 100 days.

## CRESS

**Curled or Pepper Grass**—Grows very quickly. Use for flavoring salads, for garnishing, or as a green in sandwiches. Has an agreeably pungent taste. Best if used when young. 40 days. Pkt. 10c.

## CUCUMBER

The best soil is warm, sandy loam—preferably on a slight southward slope. Be sure all danger of frost is past, and that soil is fairly moist and loose. Plant 8 or 10 seeds to the hill. When 6" tall, thin to 3 in a hill. Take fruit as soon as it reaches picking stage.

**A and C**—A long dark green cucumber which merits a trial. Uniform, nearly cylindrical, well rounded at ends.

**Davis Perfect**—Midseason. 9 to 10 in. long, tapered both ends, good color. 68 days.

**Early Fortune**—Rich, dark green fruits with firm, crisp, pure white flesh. Grows to 9 by 2½-in. Ships well, and is highly resistant to disease. 66 days.

**Early White Spine (Extra Early)**—Deep green, practically free from ridges. 7-in. long. Vines produce freely. 55 days.

**Long Green Improved**—Black spined, good pickling. Grows 10 to 15 in. long. 70 days.

**Marketer**—Fine new variety, very prolific. Attractive rich, dark green color, carried right down to blossom end. Crisp, icy-white flesh. 7¼-in. long, 2¾-in. diameter.

**National Pickling**—Rich dark green. Straight and rather blunt at ends but not chunky. Best all-around pickler. 55 days.

**Straight Eight, w.s.**—Unsurpassed as slicing cucumber. All-America Selection. 2½-lb. fruits, rounded at ends, medium green. 68 days.

## DILL

**Long Island Mammoth**—Used for flavoring. Flat seeds have strong, bitter flavor. Pkt. 10c.

## EGGPLANT

Requires continuous warm weather for best results. Seed should be started in a hotbed, as it is slow to germinate. Set plants in open ground when 2" tall and protect from hot sun when young. Be sure to keep young plants developing rapidly. Cultivate freely. To produce large fruits, remove lateral branches so as to reduce number of fruits per plant. Spray to protect from potato bugs.

**Black Beauty (fr)**—Large, egg-shaped, smooth, very dark purple fruits. Keep well. Plant bears 4 to 5 fruits. Early. 80 days. Pkt. 10c.

## THE OLD GARDENER reminds you

Carrots are mighty useful vegetables. Use them fresh out of the garden—especially the finger-sized thinnings that commercial growers throw away, but that are the choicest morsels of flavor the garden produces. Or can or freeze them. For using fresh, for canning or freezing, use Chantenay Red Cored or Nantes Improved Coreless.

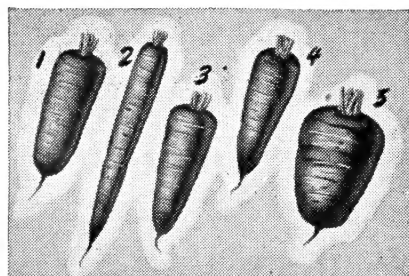
These new coreless types have less fiber, taste sweeter. For storing in the root cellar or outdoor barrel, you want something a little firmer, like Danvers



Half Long. On stiff clay, where the longer sorts "corkscrew" or "dogleg" as they try to grow into the unyielding soil, use Oxheart, a stumprooted type that will grow straight.

Plant your first carrots as soon as soil can be worked, using the coreless types. Plant your last batch sixty days before you expect killing frost. In between, plant every three weeks.

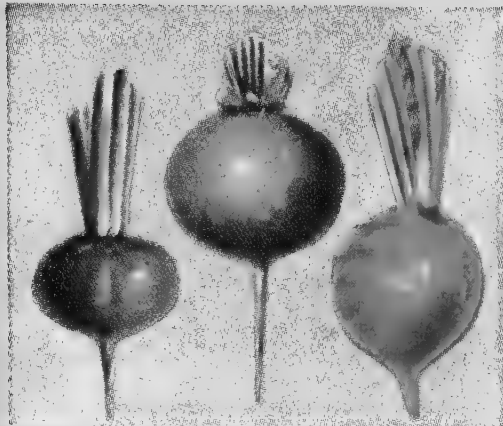
The carrots illustrated here, for comparison of actual sizes, are: 1—Chantenay; 2—Imperator; 3—Danvers Half Long; 4—Red Cored Chantenay; 5—Oxheart.



*All Vegetable Seeds*  
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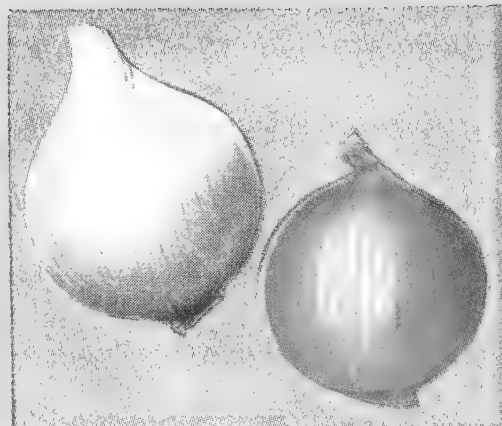




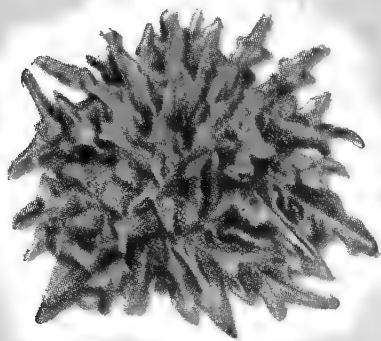
**BEETS, Crosby's Egyptian (Center)  
Early Wonder (Left)  
Detroit Dark Red (Right)**



**CABBAGE, Charleston Wakefield**



**ONIONS, Yellow Globe Danvers  
Southport White Globe**



**LETTUCE, Bronze Beauty**



**CANTALOUPE, Hale's Best No. 45**



**EGG PLANT, Black Beauty**

## HOW? WHEN? WHERE? WHY?

Practical answers to every-day questions about home gardening

### Make the most of your space

If your space is limited, better omit crops like peas, corn and potatoes that need lots of room. And go slow on crops that you can buy in equal quality on the market, like potatoes, late cabbage and winter squash. Instead, favor the delicately flavored vegetables like leaf lettuce, early cabbage, green beans and summer squash that can never be shipped without some loss of quality.

### Spading vs. plowing

Before digging or plowing, spread 2½ to 3 lbs. of good mixed fertilizer over every 100 square feet of soil. Divide into two lots, broadcasting one with the wind and the other across the wind. Or use a fertilizer spreader if you have one; it insures uniform distribution.

Before you dig, make the mud pie test: pick up a handful of soil and pat it lightly into a mud pie or cake. If it can be crumbled into loose soil easily, the soil is all right to dig. If too wet, don't dig. Now you are ready to dig. The right tool, unless you are accustomed to

**Include perennial vegetables when possible. Rhubarb, Asparagus, Horse Radish and Perennial Onions can be grown on one side of the garden where they won't interfere with plowing or cultivating. Small fruits should be included whenever space will permit, since the quality of home-grown berries is far better than any you can buy.**

something else, is the round-pointed long handled shovel. If there is any slope to your garden, start at the lower end, as the natural tendency is for soil to work down grade. Start by digging a trench the width and depth of a spade. Wheel soil from this trench to the far end where you plan to finish. As you dig, throw the earth from the succeeding rows into the trench made by the previous spade cut. The last trench is filled with the earth wheeled from the first. If you must plow, be sure the soil is right. Many good plots have been ruined by plowmen who insist on working when the soil was too wet. Before you decide on machine work, consider this: by working only an hour a day for five days, a man of average strength can dig a good-sized garden and leave the soil in better condition than the ordinary tractor job, worked with farm equipment usually too heavy for garden use.

### Raking can be overdone

Most inexperienced gardeners spend too much time working the soil into a dust with a rake. Clods should be broken up and trash and stones removed within reasonable limits. But to crush every last lump into dust takes entirely too much time for the part-time gardener. If worked at the right "mud-pie" point, most lumps will break up in the cultivation that follows planting.

### When you lay out the rows—

A cord stretched from a stake at either end of the row will serve as a

Study the chart on page 18. This will tell you how far apart rows should be, how long each crop takes to mature, and how much space you will need to provide the vegetables your family likes. After you have taken into consideration the crops you want to grow, make a rough sketch showing the location of each crop, with catch crops, intercrops, succession crops indicated.

guide in opening a furrow. For smaller seeds, press the end of the hoe handle into the soil along the line to form a ½" deep furrow. Finer seeds can be planted in this furrow, covered with about ¼" of soil. In heavy clay it will pay to use a special covering mixture of either pure sand or half sand and half peat moss. Sifted compost can be substituted for the peat. Furrows two to three inches deep for peas and beans need not be filled at once. An inch of covering at the most is enough. Fill the trench with soil as the plants grow.

### A hill is a hole

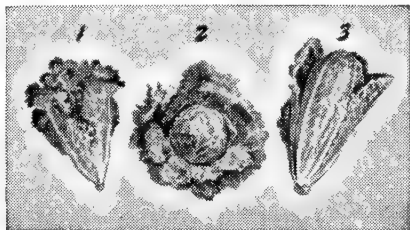
Much damage is done by following the advice, "Plant in hills." Actually, except where heavy rainfall may waterlog the soil, cucumbers, squash, melons and pumpkins should be planted in shallow depressions, several seeds spaced 2" apart. Vine crops appreciate all the well-rotted manure or compost you can dig into the soil.

## THE OLD GARDENER reminds you

LETTUCE is the Number One salad crop. And the kind you can grow at home—really crisp, fresh leaf lettuce—is the lettuce every master chef sighs for and can't get. As soon as you can dig, plant a row of Black Seeded Simpson or Simpson's Early Curled.

Or if you prefer head lettuce, you can grow Big Boston, the butter-head full-flavored kind the market grower can't supply because it doesn't ship well.

Hot weather is hard on most head lettuce, but try Great Lakes—you'll be surprised how well it grows and how slowly it bolts to seed, and you'll be delighted



The lettuce varieties illustrated here are: 1—Prizehead; 2—Iceberg; 3—Romaine.

with its good crisphead flavor. Remember that lettuce is a fast-growing, rich feeding crop. Give it plenty of water. And use your compost or well-rotted manure liberally on the lettuce row. A light sprinkling of nitrate of soda will pay, too, because lettuce thrives on lots of nitrogen.



## ENDIVE

Sow at intervals for continuous supply. When well started, transplant or thin to 1' apart. To blanch, tie outer leaves together over the center when plant is nearly grown. Just before killing frosts in fall, dig the plants, taking plenty of soil with roots—pack closely together and store in dark cellar for winter use.

**Broad-Leaved Batavian or Escarole**—Large broad leaves forming immense round plants up to 16 in. across. Easily blanched. 90 days.

**Full Heart Batavian**—An improved and earlier Escarole. Large leaf, thick head. Leaves crisp and tender. 88 days.

**Large Green Curled or Giant Fringed Oyster**—Leaves large. Finely cut and curled. Rich green color but blanches to a creamy white. 65 days.

## KALE OR BORECOLE

Requires moist, well enriched soil. Pick leaves as wanted, or pull whole plant. Leaves are best after a frost.

**Dwarf Green Curled**—Hardy, large and very attractive bright, deep green. 100 days.

**Dwarf Siberian**—Hard and productive. Bluish green foliage. Leaves large and spreading. 65 days.

## KOHLRABI

Sow early as possible in light, rich soil. When plants are in the third leaf, thin to 6" apart. Plant at intervals of 10 days for succession of bulbs until hot weather—after which they do not grow. Use while still young and tender, before skin hardens.

**White Vienna Early (fr)**—8 to 10-in. leaves on slender stems. Bulbs 2 to 3-in., globular, light green. Crisp, tender, clear white flesh. 55 to 60 days. Pkt. 10c.

## LEEK

**Large American Flag**—An early, popular variety, with thick, long white stems. Leaves large and drooping, medium green. 130 days. Pkt. 10c.

## LETTUCE

Sow as soon as ground can be worked—or for extra early crops start indoors and transplant when danger of heavy frost is over. Repeat sowing every 2 weeks to insure continuous supply. For leaf lettuce, thin plants to 6" apart. For head lettuce, thin to 8" spacing, in rows 18" apart. Lettuce grows best and heads best in cool, moist weather.

### Head

**Bibb**—Early, small headed lettuce of excellent quality and flavor. Perfect for home gardens. Very smooth, dark green leaves, bleaching to a rich yellow.

**Big Boston or Mammoth Boston**—Popular for cold frame forcing and outside culture. Medium, compact heads with creamy yellow heart. Smooth, glossy leaves, edges wavy, and slightly tinged with reddish brown. 75 days.

**Iceberg**—Late, large variety. Compact heads, crumpled, crisp and sweet. Leaves light green, slightly brown on edges. 85 days.

**Great Lakes**—All-America award. An outstanding new Iceberg or Crisp-head type. A summer lettuce that stands heat well and is very resistant to tip burn. Heads medium size, solid, crisp.

**New York No. 12**—The standard crisp-head lettuce. Large globular shaped head, dark green with blanching, silvery white heart. Successfully grown outdoors spring, summer and fall. 85 days.

### Loose Leafed Varieties

**Black Seeded Simpson**—Light green, frilled and crumpled. 45 days.

**Bronze Beauty**—All-America Bronze Medal winner, 1947. An entirely new type of leaf lettuce, tender, crisp, with an unusual nut-like flavor. Leaves are long, neatly arched, with deeply lobed and scalloped margins. Delightfully different in color, a warm, ruddy bronze sheen over soft green undertone. Easy and quick to grow in the home garden. 40 days.

**Chicken**—Produces largest amount of leaves of any lettuce. Fast-growing. For poultry and rabbit feeding. 40 days.

**Grand Rapids**—Erect, compact, plants. Light green, broad heavily fringed. For forcing or early planting outside. 43 days.

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**Oakleaf**—The most popular leaf lettuce for home gardens. Rick, dark green leaves, tender and delicious. Outstanding resistance to hot weather.

**Prize Head**—Early non-heading sort. Medium sized plants, crisp and tender. Color light brown on a medium green base. Leaves frilled at edges, and crumpled. 47 days.

**Simpson's Early Curled**—Also called Early Curled Silesia. Early, hardy and dependable. Non-heading. Leaves large frilled, crumpled, light green; form a compact bunch at center. 45 days.

### Cos or Romaine

**Dark Green Cos**—Self folded loaf-shaped head. White leaves with faint tinge of green. Very crisp. 84 days.

**White Paris or Trianon**—Medium large self-folding, dark green, loaf-shaped heads. Greenish-white, well blanched interior. 66 days.

## MANGEL WURZEL

**Mammoth Long Red**—Very popular, 30 to 50 tons per acre. Roots grow half above the ground. Light red, flesh white with rose tinge. 110 days.



## MELONS

Requires long season to develop and is easily injured by frost, or even by cool weather. Before planting, spade in liberal forkful of well rotted manure in each hill. Thin plants to 4 per hill after third leaf develops, and train vines in different directions. Cultivate as long as possible. On moist ground use shingles to hold melons off ground to prevent rotting.

### Muskmelon and Cantaloupe

**Bender's Surprise**—Improved Surprise, similar to Tip Top. Coarse netted 7-lb., oblong fruit, distinctly ribbed, hard greenish-yellow skin. Flesh bright salmon. 95 days.

**Hale's Best No. 45**—Flesh thick, deep salmon-pink, sweet and tasty. Heavily netted rind, with faint stripe. Small seed cavity. Outstanding variety, resistant to powdery mildew. Weight, 4 lbs. 86 days.

## MELONS, Continued

**Hearts of Gold or Improved Hoodoo**—Nearly round 2-lb. fruit, distinctly ribbed, deep green with fine grey netting. Thick, deep salmon flesh, tender sweet. 94 days.

**Honey Rock or Sugar Rock**—Round, 4-lb. fruit. Grey-green skin, coarse, sparse netting. Orange-salmon, thick flesh, fine flavor. 85 days.

**Pride of Wisconsin**—Small seed cavity and thick, orange flesh, excellent flavor. Matures early. Large size. A new melon which is deservedly becoming a leader. 92 days.

### Watermelon

*Requires about same culture as muskmelon, except the vines need more room. Fertilize each hill liberally and cultivate thoroughly.*

**Dixie Queen**—Very prolific. Bright red, crisp, splendid quality fibreless flesh. Very few small, white seeds. 85 days.

**Early Kansas**—New variety, early. Large, oval, dark green with light green striping. Flesh solid deep red; texture fine; tender; delicious flavor. 80 days.

**Kleckley's Sweet**—Large, cylindrical, dark bluish-green, with thin, tender rind. Bright red, juicy, sweet flesh, creamy-white seeds with traces of brown. 85 days.

**Stone Mountain**—Also called Dixie Belle. High quality shipping variety. Fruits very large, oval-round, blunt ends. Dark green, tough rind. Flesh rich scarlet, fine grained, sweet. Seed white with black tips. 90 days.

**Tom Watson**—Outstanding red heart strain. Large fruit, uniform cylindrical, with tough, elastic rind, faintly veined. 90 days.

## MUSTARD

**Southern Giant Curled** (Long standing)—Popular curled-leaf for spring or fall planting. Pleasing mild flavor and very large. 35 days.

**Spinach Mustard or Tendergreen**—Quick-growing green, combining mustard and spinach flavors. 28 days.

## OKRA OR GUMBO

*Do not plant until ground is warm, as this is a tender, hot weather plant. Pick before woody fibres develop.*

**Dwarf Green**—Early, prolific dwarf-growing sort. Dark green fluted, 5 to 7-in. pointed pods. 50 days.

**Improved Long Green**—Handsome plants of medium height bear long, tender pods which remain tender a long time, and free from hard ridges. 60 days.

**White Velvet**—Early and prolific. Pods pale greenish-white, 6 to 7-in. long. Meaty, tender, 62 days.

## ONIONS

*Plant as soon as soil can be prepared. For best yield, plant on very fertile land—fall plowed, and thoroughly fertilized. When plants are a few inches tall, thin to prevent crowding—using the plants removed as green onions. Those left to become fully ripe can be stored for winter. Cultivate and hand weed every 2 weeks during summer.*

## Red Varieties

**Red Wethersfield**—Popular, good keeper, used extensively for sets. Medium large, flat bottomed bulbs with sloping top. Purplish-red. Fine grained flesh, firm, slightly flushed with pink. 100 to 102 days.

**Southport Red Globe**—Finest of all red onions. Perfectly round, good sized bulbs with thick, small necks. Skin is deep purplish-red. Strong flavored flesh, white tinged with pink. Good keeper, productive. 112-114 days.

## White Varieties

**Ebenezer**—Used mostly for growing sets. Bulbs flat, deep yellow, firm, thick skinned, about 2 or 3 inches in diameter. Keeps extremely well. Maturity 110 days.

**Southport White Globe**—Best of the whites. Medium-sized, round, solid white bulbs, fine thin skin. Waxy white flesh, mild and fine grained. Keeps well in fall. 110 to 112 days.

**Sweet Spanish**—Pearl-white color, mild flavor. Solid and crisp. Largest of the white onions. 110 days.

**White Portugal or Silverskin**—Excellent flat variety. Dependable cropper, excellent for sets, for green bunching, or as a pickler. 100 to 102 days.

## HOW? WHEN? WHERE? WHY?

### Transplanting vs. Direct Seeding

Some assume a special virtue for transplanting, which is supposed to give the seedling superior vigor. Actually, transplanting is an operation from which the seedling must recover before it can begin to grow again. If there is ever any question between direct seeding or transplanting, direct seeding should always get first choice if there is still time to grow a crop.

#### Starting seedlings indoors

Don't begin too soon. For most plants, flowers and vegetables alike, 5 to 6 weeks is soon enough before transplanting to begin. Light in the average home is too feeble for good growth unless flats are grown in a window that gets at least 6 hours of direct sunshine daily. Fill shallow boxes (called flats) with mixture of  $\frac{1}{3}$  good garden soil,  $\frac{1}{3}$  clean sand and  $\frac{1}{3}$  compost or leaf mould. Make very shallow rows or drills with the edge of a ruler, 3" apart. Sow seeds in these 1" apart. For most plants temperature of 70° is best.

Soil must never dry out, yet must not be saturated. Spray with atomizer if possible two or three times daily. When best seedlings can be selected, thin out to stand 2" to 3" apart. Before transplanting, withhold water for 3 to 4 days. When set out in perma-

nent position, water freely and seedlings should start growing again without severe check. Always try to save as many roots as possible.

Set firmly by pressing on both sides of stem. If soil is not firmed around roots, seedling may be killed when "hung" with space under it.

As soon as garden has been planted, water thoroughly but gently to avoid formation of crust. If crust forms, break by working gently on either side of planted row. In the case of slow-germinating, delicate seedlings like carrots, it pays to mix a few radish seeds with them so these quick-germinating seedlings will break thru and mark the row. Otherwise you may have to delay cultivation until too late for good weed control.

#### Weeding vs. weed control

In soils in good tilthy condition, the main purpose of cultivation is to destroy weeds. Weeds are harmful because they shade desirable plants, because they rob them of food, and because they use up soil moisture.

Annual weeds are usually easy to kill if we can keep them from seeding. Deep-rooted perennial weeds like bindweed, Canada thistle and quack grass, however, are another problem. The simplest way to control these is to take the soil out of cultivation and destroy them with a 2,4D weed killer. If this isn't feasible, the only other control is to cut off the tops every

### Practical answers to every-day questions about home gardening

two weeks, no sooner and no later. If cut sooner, they do not use up their stored starch reserve. If cut later, they recover some of this reserve.

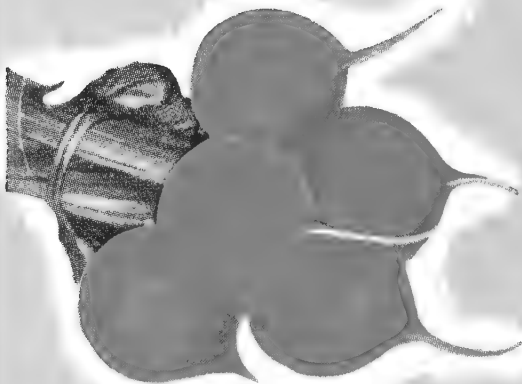
In lighter soils it is sometimes possible to dig out the roots, but every last piece must be found and destroyed or it will re-infest the entire garden.

The right conditions for a successful indoor start are not difficult to achieve. Any gardener can do the trick by applying a reasonable amount of care and attention.

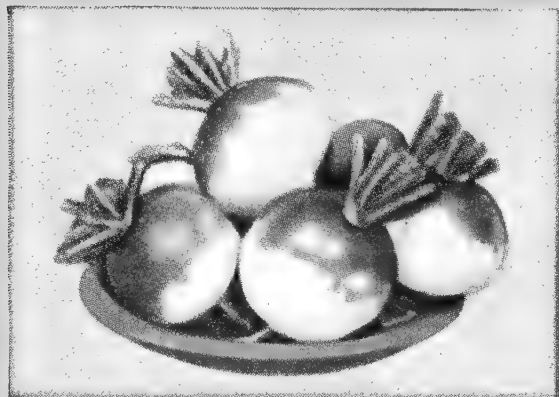
Use a box three inches deep and of any suitable size. Space the bottom boards about an eighth of an inch apart to provide drainage. Sift soil and use the coarser part in the bottom, with an inch of fine soil on top. Press around edges of box with a brick or board to firm the soil. Add more sifted soil and draw the straight edge of a lath or ruler across the top to level.

Press furrows about one-quarter of an inch deep into the soil, the furrows spaced about 2" apart. Plant seeds  $\frac{3}{4}$ " apart to allow room to lift each seedling without disturbing the rest. After seeding, fill furrow with clean sand or sifted soil and press down soil over entire box until it is  $\frac{1}{2}$ " below upper edge.





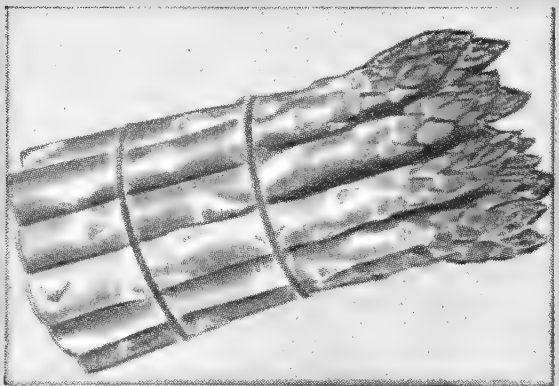
RADISH, Scarlet Globe



TURNIP, Purple-Top White Globe



CABBAGE, Early Jersey Wakefield



ASPARAGUS, Mary Washington



ONIONS, Prizetaker

## HOW? WHEN? WHERE? WHY?

### WHEN TO SOW

Seed catalogs and garden books usually offer you a list of definite planting dates. We'd like to do this, too, but experience has taught us that such dates are often dangerous. Weather variations from year to year are likely to make the most carefully compiled dates look foolish.

Here's a guide to planting time that doesn't rely on dates, but rather on Nature's own signs.

**FULLY HARDY CROPS:** Sow as soon as the ground can be worked in spring, or when the farmer plants oats. In some years crocuses and snowdrops may be in bloom at this time, but if the ground is ready sooner, plant anyway. These crops include lettuce, cabbage, broccoli, carrots, cauliflower, kale, kohlrabi, parsnips, radishes, rutabagas, spinach and turnips. Also round-seeded peas.

**HARDY CROPS:** When the daffodils and earliest tulips bloom, or when maple trees are in full flower, plant these: Beets, wrinkled peas. Swiss

chard, and onion sets.

**TENDER CROPS:** When the Lilacs, Darwin Tulips and Apple Blossoms are in full bloom, plant these: Bush beans, sweet corn, pumpkins, and squash are included.

**TROPICAL CROPS:** When the petals on apple blossoms will have fallen and the tall late irises are in full bloom plant: Okra, Lima beans, Pole beans, muskmelons and cucumbers, and set out plants of tomatoes, peppers and eggplant. These can't stand frost and should not be planted until the weather is warm and settled.

#### Mulching—Why and How

A secondary purpose of cultivation is to form a dust mulch and help check evaporation from the surface. In many gardens a more substantial mulch will do better work and also cut down weeding. Any clean vegetable matter such as lawn clippings, chopped or whole hay, ground corn cobs, peat, etc., can be used. Vermiculite, a mineral product used as insulation and as poultry litter, has proved a valuable mulch because in processing it is heated to over 2,000 degrees, which destroys all life and active chemicals. Also, it has high waterholding capacity.

Apply these mulches when ground is still moist. If applied after soil dries out, light summer rains may not be able to penetrate them and maintain soil moisture. Remember, a mulch does not stop the use of water by the plants; it merely slows up evaporation from the soil itself.

#### Do you IRRIGATE your garden?

In speaking of renewing soil moisture, irrigation is actually a better word than watering, because it means long, slow penetration rather than surface sprinkling.

Whether water is added thru overhead sprinklers or a hose flowing onto a board to prevent washing the soil, it should always be supplied so freely that the soil is saturated to a depth of several inches.

If applied in this way, most gardens need watering less than once a week. Less water is used than in a daily sprinkling, since sprinkling usually wastes a great deal of water thru evaporation. Deep irrigation is valuable because it keeps the roots growing downwards, where they are cool and moist rather than growing near the surface where the heat of summer can injure them.

#### How to plant fine seed

In planting fine seed, tear off one corner of the packet and, if Rootone is used, drop in a pinch and shake. The seed can be tapped out of the torn corner of the packet one at a time. Fine seed is often mixed with dry sand so that it will spread out better, but this will only work if seed is not more than twice the size of the sand grains.

# THE GIST OF THE STORY

## for Vegetable Gardeners

There's no end to the science of vegetable gardening—nor to the books that have been written about this fascinating subject. But if you haven't the time to read all the books, then try the brief paragraphs that follow. Here are the fundamental facts—the things every vegetable gardener should know—AND DO!

### ASPARAGUS

Soak seed 24 hrs. before planting. Sow in loose, rich, moist soil after danger from frost is past. Thin to stand 6" apart. In early spring, set in permanent position, 24" apart, in rows 36" apart. Set in hole so that crown is 8" below surface, but only cover tips with 3" of soil. As plants grow, fill in until level. Don't cut 1st year after setting.

### BEETS

Each "seed" is a fruit with several true seeds. No matter how thinly beets are sown, they will need thinning. Plant as soon as ground can be worked in spring, thin gradually (use thinnings as greens) until roots stand 4" apart. Make three sowings, one early, one three weeks later and one 60 days before frost is expected.

### BRUSSELS SPROUTS

Grow like late cabbage, but don't use until after heads have been frosted.

### BROCCOLI

Start plants indoors 5 wks. before last frost. Set out 12" x 24". Broccoli heads must be harvested before they bloom: they are inedible after yellow flowers appear. Direct-seed for late crop 60 days before frost is expected.

### Special Directions for Controlling Insects in Cauliflower, Broccoli and Brussels Sprouts

Use Rotenone dust or spray. It must hit insects directly, so drive them out of inner head by dusting or spraying with light dose of Rotenone. Allow plant to stand for 10 minutes, then go back over the same row with a heavy dose of Rotenone. By this time the worms will be out on the surface and are sure to be killed. Repeat every 10 days.

### BRUSSELS SPROUTS

Follow directions for late cabbage.

### EARLY CABBAGE

Start plants inside (see above). Set out 12" x 24" as soon as frost danger is past. Dusting with D.D.T. is safe if outer leaves are discarded, since plant grows from the inside out.

### LATE CABBAGE

Direct-seed four months before frost is expected, thinning to 24" x 36". Or start plant indoors (see above) 30 days before needed, transplanting outdoors 90 days be-

fore frost. Don't water freely when heads are nearly filled, as this promotes splitting; irrigate only enough to keep plants growing well.

### CELERY

Start in hotbed 60 days before needed. In setting outdoors, don't get soil in or over crown. Set 7" to 12" apart. Soil must be rich, moist and loose. As soon as plants have grown to 14" to 15" tall, set 12" boards on both sides of row and hold in place with earth. Or 4" drain tile can be used to blanch individual stalks.

Celery must have warm, settled weather: if chilled, plants are likely to go to seed.

### CHINESE CABBAGE

Must never be grown as a spring crop since it will only go to seed. Plant after June 15th, as days are getting shorter: then it will head. An excellent succession crop to follow early peas.

### COLLARDS

Follow directions for early cabbage.

### CUCUMBERS

Sandy soils with plenty of compost are best. Roots have difficulty on heavy soils. Plant 8 to 10 seeds in a hill (see above—A HILL IS A HOLE). When vine is 6" long, thin to three strongest plants. Keep fruits picked to promote continuous fruiting. If compost isn't available, feed with commercial fertilizers. Use plenty of moisture: cucumbers are 90% water.

### EGGPLANT

Start seed indoors 8 weeks before plants are needed. Set out after apple blossoms have fallen and weather is warm and settled. Feed and water liberally as Eggplant needs to be kept growing rapidly to produce well. D.D.T. will control pests that until now made this a tricky crop to grow.

### ENDIVE

Strictly a cool-weather crop: gets bitter at temperatures much above 80°. Plant very early and again in mid-July. Use last planting as late fall salad crop, and store surplus in cold frame or cellar by digging each plant with ball of soil. Space 12" apart in rows 18" apart. Feed liberally for bigger, crisper heads.

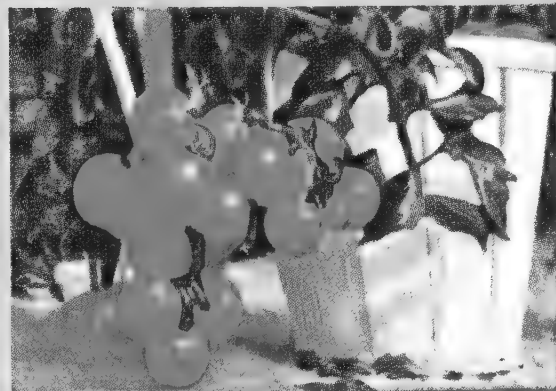
### KALE

Grow like Brussels Sprouts.

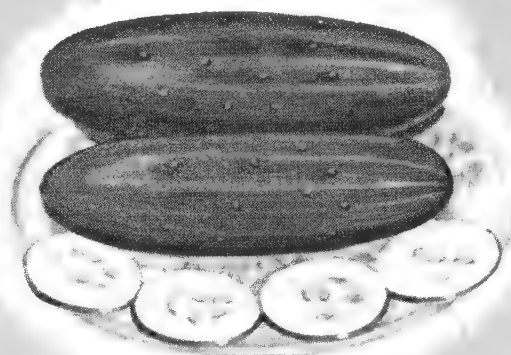
(Continued on Page 15)



BEANS, Improved Golden Wax



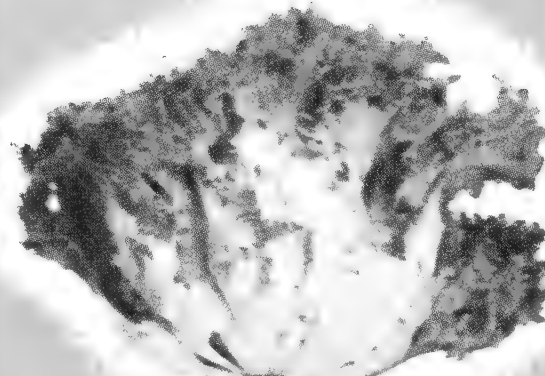
TOMATO, Stokesdale



CUCUMBER, Early Fortune



SQUASH, Early Prolific Straightneck



ENDIVE, Deep Heart Fringed

## Yellow Varieties

**Prizetaker**—Large, globe shaped, with glossy, thin straw-colored skin. Coarse, mild flesh. 102 to 104 days.

**Southport Yellow Globe**—Globe shaped, medium to large bulbs. Solid yellow, tough clinging skins. Creamy white flesh. 114 days.

**Sweet Spanish**—Large, globe-shaped, exceptionally mild and sweet—excellent for eating raw or boiled. Light yellow skin and pure white, firm, crisp, and tasty flesh. 112 days.

**Yellow Globe Danvers**—An oval shaped, straw-colored onion. White flesh, crisp and mild. Splendid keeper. 110 days.

## ONION PLANTS

Sturdy, hardy plants that come to you all ready to set out. Ask for prices.

## ONION SETS

Onion sets used instead of seeds will produce earlier crops of green onions or large bulbs. Plant sets right side up and cover with garden rake; then firm the soil well over the sets.

The quickest way to get onions early. We offer choice, select, dry sets, of the highest quality. (Prices on application.)

**RED**      **WHITE**      **YELLOW**

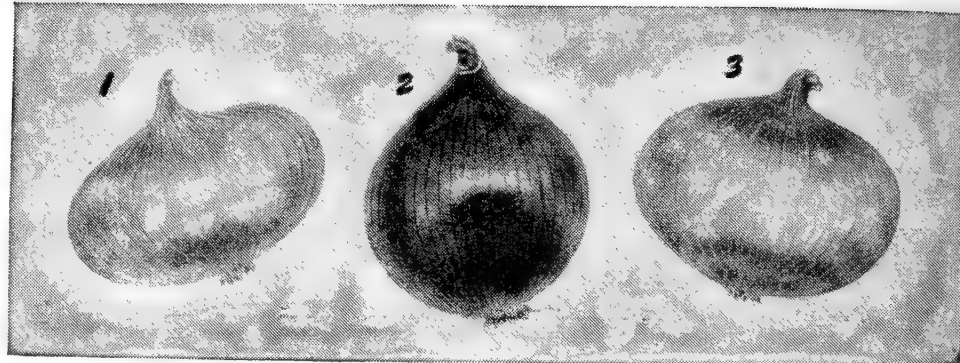
## PARSLEY

Does best in rich, mellow loam. Seed is slow to germinate, and is helped by soaking in warm water over night before planting. Sow early and not too deeply. When curled varieties are about 3" tall, cut off leaves. The new growth will be brighter and curlier.

**Hamburg or Parsnip Rooted**—Deeply cut, plain leaves. Edible roots, thick and fleshy, 10 to 12-in. long. Used for flavoring. 90 days.

**Moss Curled or Triple Curled**—Compact, dark green leaves, curled and fine-cut. 70 days.

**Plain or Single**—Leaves dark green, flat, deeply cut, but not curled. 60 days.



EBENEZER

SOUTHPORT  
Red Globe

WHITE PORTUGAL

## PARSNIP

Plant in rich, sandy loam, thoroughly pulverized. Seed requires plenty of moisture for germination and should be sown early. Dig after a killing frost. Freezing improves parsnips, so some can be left in the ground all winter and used in spring. For storage, bury in dry sand.

**Hollow Crown**—The most generally grown kind. Roots 2½ to 3-in. thick at shoulder. 12 to 14-in. long, uniformly tapered, hollow crowned. 95 days. Pkt. 10c.

## PEAS

For early crop, plant in light, rich soil. For general crop, a rich loam or clay soil is best. Plant at 2-week intervals for continuous supply. Soak seeds in water the night before planting. Peas need moderate temperature, plenty of moisture. Light frosts do not injure them so they may be planted early in spring. Varieties more than 1½' tall should be staked when 4" to 6" tall.

### Early and Second Variety

**Alaska**—Wilt resistant. Used for canning and early home garden. Blunt, straight, light-green, 3-in. pods with 6 to 8 good quality small peas. Plant 32-in. 60 days.

**Laxton's Progress**—Medium dark green vine, 16 to 18-in. Single pods almost an inch wide and 4½ to 5-in. long, with 7 to 9 large peas. 62 days.

**Little Marvel (fr)**—Outstanding, dwarf. Fine quality, large yield. Single and double, dark green, 3-in. pods—blunt, plump, well filled with 7 to 8 medium sized, light green tender peas. 62 days.

**Thomas Laxton (fr)**—Medium height. Strong vine bears numerous dark green, blunt ended pods, 4 to 4½-in. Retains flavor and sweetness. One of earliest. 57 days.

### Later Varieties

**Alderman (fr)**—Large podded variety of the Telephone family. Excellent for home garden, truckers, shipping to distant markets and for freezing; resistant to Fusarium wilt. Vine dark green, coarse. Pods single, very broad, plump, straight, dark green, pointed; contains 8 to 10 peas of highest quality. Seed large, wrinkled, light green. 74 days.

**Dwarf Telephone or Daisy**—Large pods 4½-in. long, broad, straight and pointed, containing 7 to 9 large round peas. Vines about 24-in. tall. A popular main-crop pea. 79 days.

**Telephone**—Dark podded, popular late variety. Pods 4½-in. to 5½-in., very large; vine about 40-in. tall. 75 days.

### Edible Podded or Sugar

**Mammoth Melting Sugar**—Wilt resistant. Coarse light-green vine, 54-in. Single 4½-in. pods, broad, indented, light, blunt, stringless, without fiber, fleshy. Contains 7 peas. Seed large, round, creamy-white. 74 days.

## PEPPERS

Warm, mellow soil in sheltered location is best. Start under glass. Cultivate regularly, drawing soil up around stems. When plants are 7" to 8" tall, hoe in light dressing of commercial fertilizer. Do not plant hot peppers near sweet; they are apt to cross.

### Sweet

**California Wonder Improved**—Number one quality peppers, about 4-in. long and 3½-in. diameter, very smooth, 3 and 4 lobed, glossy green, turning bright crimson when ripe. Remarkably thick walls, tender, sweet. 75 days.

**Perfection Pimento**—Best of the medium sized sweet peppers. Excellent for stuffing. Smooth, heart-shaped, about 3-in. long. 125 days.

## THE OLD GARDENER says,

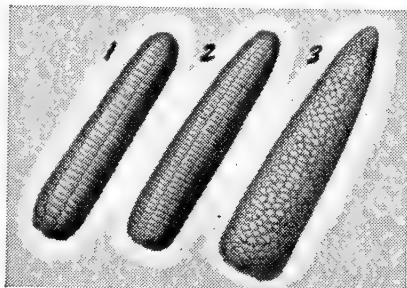
"Now, talking about corn, don't forget—

SWEET CORN is at its best if you will cook it less than an hour after you gather it. As soon as it's picked, the delicate sugars begin to turn to starch, and six hours after it's off the stalk, most of the true sugar flavor is gone. Which means that for most folks, if they want the true flavor of sweet corn, they just have to grow their own.

The new hybrid varieties are really wonderful—husky stalks that produce ample ears even when the open-pollinated sorts fail. But when you plant hybrid sweet corns, better grow more

than one variety because they pollinate better when several kinds of pollen are flying at the same time. And for best pollination, don't plant one or two long rows of corn down one side of the garden: instead, plant six or more short rows side by side. Remember, corn pollen is carried on the wind and the wind must hit all the stalks in the field or patch if they are to grow well-filled ears.

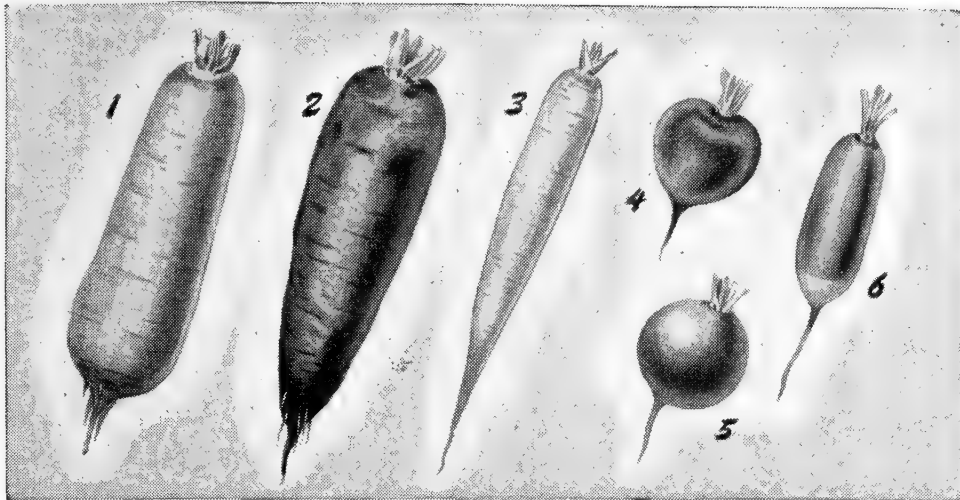
The sweet corns illustrated here are:  
1—Golden Bantam;  
2—Golden Cross Bantam; 3—Country Gentleman.



*All Vegetable Seeds*  
**10¢ PER PACKET**  
UNLESS OTHERWISE NOTED

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Special quotations to market gardeners.  
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1—China Rose Winter; 2—Long Black Spanish; 3—White Icicle; 4—Crimson Giant; 5—Early Scarlet Globe; 6—French Breakfast.

## PEPPERS, Continued

**Pimento**—Excellent for canning or stuffing. Smooth, heart-shaped, very thick flesh. 73 days.

**World Beater**—One of the best large peppers. Glossy-green, changes to bright red. Mild, very sweet, thick flesh. 75 days.

### Hot

**Hungarian Wax**—Slender, waxy yellow fruit about 6-in. long, turns red when ripe. Very hot. 65 days.

**Long Red Cayenne**—The hot favorite. For canning, pickling, drying. Pungent flavored fruit, tapering and twisted. 70 days.

**Red Chili**—Low, spreading, 18-in. plant. Extremely pungent fruit. Erect, conical. 82 days.

## PUMPKIN

Cultivate practically the same as melons or cucumbers.

**Connecticut Field**—Large fruit with flat ends, 15 to 25-lbs. and up to 15-in. Surface, slightly ribbed, deep orange. Thick flesh, orange-yellow, sweet and coarse. 118 days.

**Green Striped Cushaw**—Medium size, smooth, crookneck shaped, white with green mottling and stripes. Thick yellow flesh. 115 days.

**King of the Mammoths**—Largest of the pumpkins weighing 60 lbs. and upward. Yellow skin mottled with orange. Deep orange flesh. 115 to 120 days.

**Kentucky Field**—Dull orange, large ribbed fruit. Coarse, deep yellow flesh, good flavor. 120 days.

**Small Sugar or New England Pie**—Desirable for pie or general use. Round, flat end fruit, deep orange. Thick, yellow-orange flesh. 118 days.

## RADISH

Soil should be light, quick and rich to insure rapid growth. Slow growth makes the flavor too strong. Sow as early as ground can be worked, as Radishes are very hardy. Make successive sowings up to hot weather. When in the third leaf, thin to give roots plenty of room. Pull promptly when mature. The secret of crisp, delicious radishes is quick growth, prompt picking.

**Crimson Giant**—Large round, 1 to 1½-in. Deep crimson roots. Very crisp and tender for its size. 28 days.

# HOW? WHEN? WHERE? WHY?

(Continued from Page 13)

## KOHLRABI

Wants rich soil. Plant early in spring 4" apart in row. Must be used when young: woody when old. Make 2nd planting 3 weeks later, and again after mid-July.

## MUSKMELON

Plant 8 to 10 seeds to a hill (see above—A HILL IS A HOLE) after weather is warm. If grown in cool weather will not bear well and melons will have poor flavor. Melons love plenty of compost or well-rotted manure. When vines begin to run, thin to 3 plants to a hill. On heavy soil, Bender's Surprise or Hearts of Gold do better than others. In damp soil mulch with clean straw or raise each fruit on a shingle to keep from rotting.

## OKRA

Plant on rich soil when weather is hot and settled, spaced 12" x 24". Pods mature rapidly and must be picked or they will be inedible.

Watering tomatoes calls for special care. Cracks and blossom "end rot" (the free or blossom end turning black) are both caused by fluctuating water supply. Never let tomatoes be dry one week and wet the next. Tomatoes must be kept either moist constantly or be grown in dry soil and not watered at all.

Permanent vegetable storage space, either in the basement or outdoors will help extend the usefulness of the garden. This can also be used to keep tulip and other spring-flowering bulbs over summer, and for storing tender flowering plants like tree roses over winter. Often a hillside can be used to advantage, allowing access on a level with the floor of the storage room. In planning outdoor storage, remember that convenient access from the house will often make the difference between using the stored vegetables or depending on those canned and stored in the basement.

## ONIONS

Sets produce sooner than seeds. Set 1" apart and pull every other set for use as green onion. Again pull every other onion, leaving balance of sets to mature as dry onions.

From seed, onions have better flavor. Green onions can be grown in about 60 days from seed. Use thinning for green onions, leaving 4" apart for globe types and 6" for the big Spanish types to mature for dry onions. Latter can also be started indoors for largest bulbs and can be set out 6" apart after frost danger has passed. All onions need liberal feeding and watering.

## PARSLEY

Seed germinates slowly; soak over night. Sow early as seed germinates

## Practical answers to every-day questions about home gardening

poorly in hot weather. Space plants 8" apart. Plain parsley has best true parsley flavor: curly sorts better for garnishing. If leaves are cut off when plant is 4" tall, curly sorts will have better curl.

## PARSNIPS

Must be planted as early as ground can be worked. Soil must be loose to a depth of 12" and cannot be heavy. Space 5" apart. Frost turns starches into sugar and improves flavor. Roots are hardy: leave in ground over winter if desired.

## PEAS

Plant variety Alaska as soon as ground can be dug. Plant wrinkled varieties (which have better flavor) when narcissus buds show color or when crocuses are in bloom. Peas are not satisfactory when weather turns hot. Tall varieties must be staked. Most home gardeners prefer dwarf varieties like Little Marvel. Peas want well-limed soil. Don't forget, inoculation improves production.

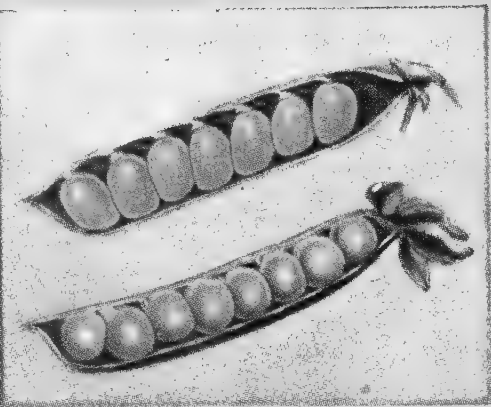
## PEPPERS

Need long growing season: start indoors 8 weeks before plants are wanted. Set out after petals on apple blossoms have fallen. Set plants 15" x 24" and feed liberally for bigger fruits.

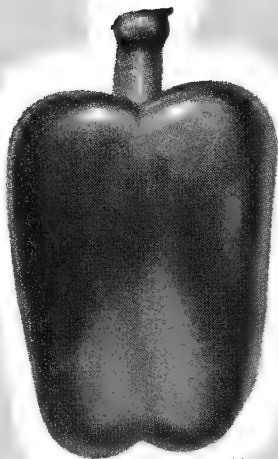
## PUMPKINS

Follow muskmelon culture, or plant in corn after last cultivation.

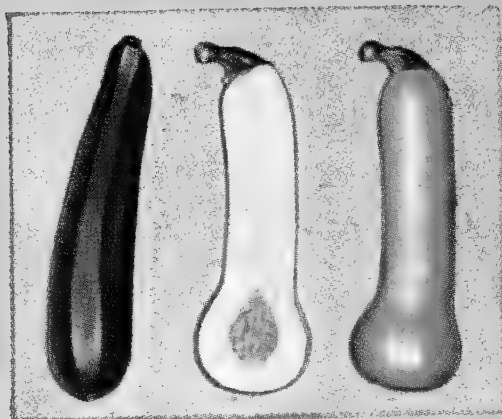
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**PEAS**, Little Marvel (Top)  
Early Thos. Laxton (Bottom)



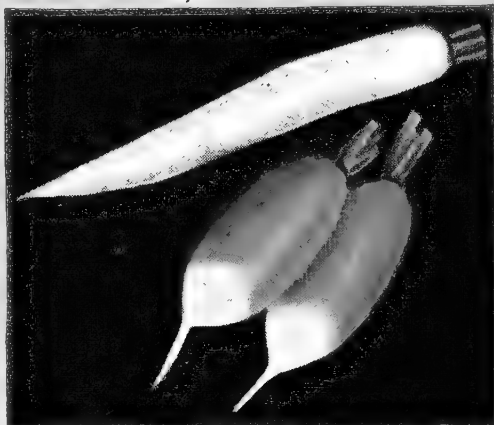
**PEPPER**, California Wonder



**SQUASH**, Zucchini (Left)  
Butternut (Right)



**TOMATO**, Marglobe



**RADISHES**, Icicle and French Breakfast



**TOMATO**, Rutgers

## HOW? WHEN? WHERE? WHY?

(Continued from Page 15)

### RADISHES

As a rule the first crop to mature: plant as early as soil can be dug. Feed liberally for quick growth. Sow a 10 foot row every ten days until weather turns warm. Start planting again with the coming of cool weather in fall. The fall and winter types are sown in mid-summer to mature in fall for storage.

### SPINACH

Seed in fall (protect with straw) or in very early spring. Must mature before hot weather. New Zealand spinach will grow in hot weather but must be seeded before soil gets warm. It can be picked all summer. Mixed with Swiss chard in cooking the flavor is like ordinary spinach.

### SQUASH

Follow culture given for muskmelon for vine types. Grow bush types in rows, spaced 24" apart. Keep picked. Will bear all summer.

### SWISS CHARD

Culture like that of beets. New leaves grow out as old are picked. Mix with New Zealand spinach if flavor is objectionable.

### TURNIPS

Follow directions for radishes. Thinnings can be cooked for greens.

The big advantage the home gardener has over the commercial grower is that he can pick his vegetables one minute and have them in the kitchen the next. All vegetables are better if left on the plant until ready to serve.

Sweet corn in particular loses sweetness every minute it is off the stalk. Pick only what vegetables you can use right away and not until you are ready to use them.

Most vegetables, particularly summer squash, sweet corn, cucumbers, carrots, beets, peas and string beans,

## When it's time to harvest

Practical answers to every-day questions about home gardening

should be used much younger than usually harvested by the commercial grower. Learn the "feel" of an ear of corn that is ready to pick. The tip of the ear will feel full and the silks should be turning brown.

Muskmelons do not get sweeter after picking. For full flavor leave them on the vine until a crack appears all around the point of attachment between the stem and melon. The free end should feel definitely soft when the melon is ready.

## Best Vegetables for Storage

**Beets, Carrots, Turnips, Winter Radishes**—Do not wash. Pack in loose moist sand or fine moist soil. Store in unheated cellar, or in ventilated room away from heat.

**Cabbage**—Roughly trim heads, cut off roots. Store in temperature of 40 to 60°, with high humidity or cover heads with moist soil or sand.

**Celery, Kale, Chinese Cabbage, Endive, Leeks**—Store in trenches outdoors or in boxes of soil in basement. Outdoors must be covered with straw to prevent freezing.

**Squash, Pumpkins**—Harvest as they mature, leaving 3 or 4" of stem. Cure for a few days at 80 to 85°. Store in dry place.

**Peas, Beans**—May be picked off plants or the whole plant pulled and placed in dry airy place to cure. After thoroughly dried, shell, clean, sort and

store in jars or cans in cool, dry, dark place.

**Onions**—Pull as soon as most of the tops fall over. Place in racks or spread out on dry wooden floors—or hang in dry airy place. Store in dry well-ventilated place at a temperature just above freezing.

**Parsnips, Salsify, Horseradish**—Not injured by freezing, and may be left in the garden, or stored in moist soil or sand in cool building.

**Potatoes**—Should be kept in slatted bins for ventilation and left uncovered. Protect from strong light. Keep longer at 36 to 40°, but cook better if stored at higher temperature.

**Sweet Potatoes**—Dig as they mature or after first killing frost. Sort them as dug, and place in crates. Cure for two weeks at 80 to 85°F. before storing. Best storage temperature 50 to 55°.

## RADISH, Continued

**Early Scarlet Globe**—Globular, slightly elongated, bright scarlet. 24 days.

**Early Scarlet Turnip, White Tipped**—Carmine red with white tip. Flesh white, crisp and mild. 26 days.

**French Breakfast**—Roots thicker toward bottom. 1½-in. long by ½ to ¾-in. Dull scarlet, white tipped. 25 days.

**Sparkler**—Choice early variety, a superior strain of the old Scarlet Turnip White Tip. Bright scarlet top, clear white base, and small, tender tap-root. Juicy, pure white flesh, snappy flavor 25 days.

**White Icicle**—Tapering roots 5 to 5½-in., very white with pure white, mild flesh. 27 days.

**White Strasburg**—Popular white summer variety. 4 to 5 in. long. Tapered and smooth. Thicker than White Icicle. 40 days.

## Fall and Winter Varieties

**Rose China Winter**—Popular, very distinct winter sort. Good for late salads. Cylindrical blunt, smooth, bright rose-red. Flesh white, very firm and pungent. 52 days.

**Long Black Spanish**—Good keeping winter variety. White, crisp and pungent. 8 to 9 in. long, slightly tapered. 58 days.

**Round Black Spanish**—Black-skinned, with pure white flesh, crisp, solid and pungent, 7 to 10-in. long and 2 to 3-in. thick. 60 days.

## SPINACH

*Plant very early in spring—or start seed in fall (giving it protection by 3" of straw over the winter) and enjoy an early spring crop. Cut all spinach before hot weather as it doesn't do well in extreme heat. Sow again in August or September for fall crop. Spinach should be gathered before the flower spike appears.*

**Bloomsdale Savoy, Long Standing (fr)**—A few days later than regular Bloomsdale Savoy. Holds from 12 to 14 days longer. 42 days.

**New Zealand**—Thrives in dry, hot weather. Can be picked repeatedly all season. Not a true spinach, but similar when cooked. 70 days.

**Nobel, Giant, Thick-Leaved (fr)**—Large, vigorous, spreading plant, slow to form seed stalks. Extremely heavy yielder. Very deep green leaves. 45 days.

## SQUASH

*Plant about same time as corn—and in hills. Does best in rich, sandy loam, and is helped by fertilizing the hills. When in the third leaf, thin to 4 plants per hill. Cover every fourth joint with earth to encourage extra root formation. Bush varieties may be planted in hills 3' to 4' apart.*

## Summer Varieties

**Cocozelle or Italian Vegetable Marrow**—A long Italian squash. 18 to 24 inches long and 4 in. thick. Dark green marked with yellow and light green. 60 days.

**Early Prolific Straightneck**—Earlier, smaller, and more productive than Giant Summer Straightneck and more uniform. Brilliant yellow. Fine for home or market. Pkt. 10c.

**Early White Bush Scallop**—Fruits greenish when young, become white at

maturity. 3-in. long, 7½ to 8½-in. wide. 53 days.

**Giant Summer Crookneck**—Prolific, bush type plant, curved neck fruits around 4 to 5-lb., 20 to 24-in. long. 4 to 5-in. diameter. 56 days.

**Zucchini Fordhook**—Honorable mention. Long, slim and very dark green. Bush-like plants small enough for any home garden. Easy to grow. 60 days.

**Zucchini Bush**—About 6 in. long at edible stage. Flesh greenish-white and tender. 56 days.

## Fall and Winter Varieties

**Butternut**—Deep buff-colored, bottle-shaped fruits. Smooth, hard shell. Solid fine textured flesh, that is deep yellow, dry, sweet, with excellent flavor. 12-in. long, upper or neck section 3½-in. diameter. 85 days.



**Golden Table Queen**—All-America medal 1939. Skin is deep golden, flesh orange, dry, fine flavor and texture.

**Table Queen or Des Moines (fr)**—Acorn-shaped, green, deeply furrowed; flesh rich yellow, dry, mealy, delicious. Convenient size for baking and serving in halves. 100 days.

**Warted Hubbard (fr)**—Large, very dark green shell and heavily warted. Flesh deep orange and of excellent quality. 120 days.

## SWISS CHARD

*Requires about same treatment as beets. Cultivate frequently. Leaves may be gathered during summer and fall. New ones will grow quickly.*

## THE OLD GARDENER reminds you

TOMATOES are the Number One crop of the home garden: give them the attention they're worth. Use good husky plants, dark green with a fresh, bright look, or seeds of the newer wilt-resistant varieties listed in our catalog.

Watering is particularly important with tomatoes because blossom end-rot (the blossom end of the fruit turns black and spoils the fruit) is not a bacterial or fungus disease, but is due to "ups and downs" in the water supply. Once you start watering, keep it up consistently—at the same level. A heavy mulch to hold the soil moisture at a uniform level is helpful.



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**Lucullus**—Most popular Chard. Upright in growth, with yellowish-green curled, crumpled leaves. Thick, broad and light green stems. 50 to 60 days. Pkt. 10c.

## TOMATOES

*Do best in sandy, well pulverized loam. Sow seed in hotbed or indoors. When plants are about 2" high, set out, 3" apart, in boxes or pots—later transplant into the garden. Or keep in flats until all danger of frost is past, and then set plants out directly into the garden. Water around the roots of the plants when setting them out, if ground is dry. Cultivate frequently until plants shade the ground. Remove all but the two or three strongest branches. Study methods of staking and training vines and adopt the one best suited to your situation.*

**Beefsteak**—Rich scarlet-red, extra large fruits, more or less ribbed. Juicy, solid, with rich sub-acid flavor. One of the best for home use. 90 days.

**Bonny Best**—Second early variety, valuable for canners. Medium-vine, not very hardy. Medium-sized, apple-shaped, solid fruits, bright scarlet. Start indoors and set out after all danger of frost is past. 73 days.

**Earliana or Spark's Earliana**—Open, spreading, medium small vines. Red fruits run to medium size. This seed is selected for thick, smooth fruit. 66 days.

**Golden Queen**—Good for juice and for home gardens. The fruit is a deep golden yellow color, and vines medium large. Very mild flavor, smooth and solid. 84 days.

**John Baer**—Thick, scarlet (similar to Bonny Best). Smooth, firm, medium large fruit. 70 days.



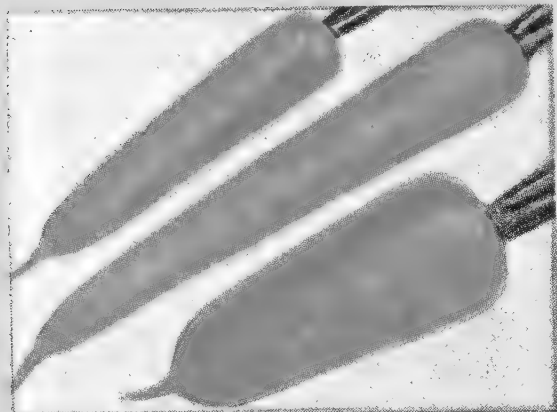
Don't use poultry manure in growing tomatoes: It forces long, sappy growth with practically no fruit. If you do use animal fertilizers on tomatoes, be sure to balance them by adding superphosphate and muriate of potash: otherwise fruit may be poor. The best plan of feeding is to use balanced plant food for a side dressing, applying it regularly as the plants grow.

To continue growth to the main shoot, trim lower leaves as plant grows (see Illustration 1 at left). Don't let the plants develop like the second one at the left. And it's well worthwhile to stake and tie the plants, as in Illustration 2.





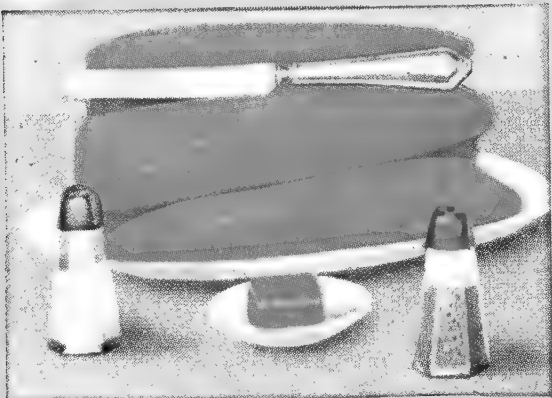
**TOMATO, Rutgers**



**CARROTS, (top) Nantes, (center) Imperator; (below) Red Cored Chantenay**



**SWISS CHARD, Lucullus**



**CORN, Golden Bantam**



**LETTUCE, Grand Rapids**

# Planting Guide

## FOR VEGETABLE GARDENS

	Seed Required for 50 Ft. of Row	Distance Between Rows (Inches)	Distance Apart in Row (Inches)	Depth of Planting (Inches)	Approximate Yield per 50 Ft. of Row	Seed Required Family of 5
Artichoke	1/8 oz.	36 to 48	18 to 24	1/4		
Asparagus	1/2 oz.	14 to 24	3 to 6	1	25 lbs.	1/2 oz.
Beans, Bush	1/2 lb.	24 to 30	2 to 3	1 1/2 to 2	20 qts.	2 lbs.
Beans, Bush Lima	1/2 lb.	18 to 24	2 to 3	1	32 qts.	1 lb.
Beans, Pole	1/2 lb.	36 to 48	6 to 8	1 1/2 to 2	30 qts.	1 lb.
Beans, Pole Lima	1/4 lb.	36 to 48	6 to 8	1 1/2 to 2	1 1/4 bu.	1 lb.
Beets, Table	1/2 oz.	14 to 24	3 to 4	1/2 to 1	1 1/4 bu.	2 oz.
Beets, Mangel	1/2 oz.	20 to 28	3 to 4	1		
Broccoli, Heading	1/8 oz.	24 to 30	24	1/2	50 head	1 pkt.
Brussels Sprouts	1/8 oz.	24 to 30	12 to 18	1/2	15 qts.	1 pkt.
Cabbage	1/4 oz.	18 to 36	14 to 24	1/2	35 to 50 head	1/4 oz.
Chinese Cabbage	1/2 oz.	18 to 24	12 to 15	1/2	40 to 50 head	1 pkt.
Carrots	1/4 oz.	16 to 24	1 to 3	1/2	24 qts.	1/2 oz.
Cauliflower	1/4 oz.	24 to 30	20 to 24	1/2	25 to 30 head	1 pkt.
Celery	1/8 oz.	24 to 40	4 to 6	1/4	75 to 100 stalks	1 pkt.
Collards	1/4 oz.	24 to 30	14 to 18	1/2	3 bu.	1 pkt.
Corn, Sweet	4 oz.	30 to 42	9 to 12	1	100 ears	1 lb.
Corn, Pop	3 oz.	34 to 40	6 to 8	1		
Cucumber	1/2 oz.	48 to 60	12 to 36	1/2 to 3/4	75 to 100 fruit	1/2 oz.
Dill	1/4 oz.	18 to 36	4 to 8			
Egg Plant	1/8 oz.	24 to 36	18 to 24	1/2	70 to 80 fruit	1 pkt.
Endive	1/2 oz.	18 to 24	8 to 12	1/2	50 to 60 plants	1 pkt.
Kale	1/2 oz.	24 to 32	14 to 22	1/2	50 plants	1 pkt.
Kohlrabi	1/4 oz.	14 to 24	4 to 6	1/2	1 bu.	1 pkt.
Leek	1/4 oz.	12 to 42	2 to 4	3/4		1 pkt.
Lettuce	1/4 oz.	12 to 18	4 to 12	1/4	25 lbs.	2 oz.
Muskmelon	1/2 oz.	70 to 80	36 to 60	3/4	50 to 60 fruit	1 pkt.
Mustard	1/4 oz.	14 to 24	6 to 9	1/2	1 to 1 1/2 bu.	1/2 oz.
Okra	1 oz.	36 to 48	24	1	450 pods	1 pkt.
Onion	1/4 oz.	18 to 24	3 to 4	3/4	1 bu.	1/2 oz.
Onion (for sets)		12 to 14	not thinned	3/4	30 scallions	
Onion sets	1 pt.	12 to 18	2	1	60 bunches	1 qt.
Parsley	1/4 oz.	12 to 20	6 to 8	1/2	45 bunches	1 pkt.
Parsnips	1/2 oz.	18 to 24	3 to 4	1/2	1 bu.	1/2 oz.
Peas	3/4 lb.	24 to 36	1 to 2	1 to 2	30-50 qts. pods	3 lbs.
Peppers	1/8 oz.	20 to 30	18 to 20	1/2	25 doz. peppers	1 pkt.
Pumpkin	2 oz.	96 to 108	60 to 84	3/4	25 to 35 fruit	1 pkt.
Radish	1/2 oz.	12 to 18	1 to 2	1/2	50 bunches	3 oz.
Rhubarb	1/2 oz.	24 to 48	18 to 24			
Rutabaga	1/8 oz.	18 to 24	6	1/2 to 1		1 pkt.
Salsify	1/2 oz.	18 to 24	2 to 4	1/2		1 pkt.
Spinach	3/4 oz.	14 to 18	3 to 5	3/4	1 1/2 bu.	1 oz.
Spinach, N.Z.	1/2 oz.	30 to 36	12 to 18	1	35 to 50 lbs.	1 oz.
Squash, Summer	1/4 oz.	36 to 48	48 (4 seeds)	1	60 to 70 squash	1 pkt.
Squash, Winter	1/4 oz.	72 to 90	72 (4 seeds)	1	35 to 40 squash	1 pkt.
Swiss Chard	1/2 oz.	12 to 18	4 to 6	1	25 lbs.	1 oz.
Tomato	1/6 oz.	40 to 60	36 to 40	1/2	2 bu.	1 pkt.
Turnip (roots)	1/4 oz.	18 to 24	2 to 4	1/4	1 bu.	1/2 oz.
Turnip (greens)	1/2 oz.	12 to 18	2 to 4	1/4	1 1/2 bu.	1 oz.
Watermelon	1/2 oz.	72 to 96	72 to 96	3/4	20 fruit	1 pkt.

## TOMATOES, Continued

**Jubilee**—Orange colored fruit. Juicy with few seeds. Weighs about 6 oz. Bears over a long season. 72 days.

**Marglobe**—Moderately productive, with heavy foliage. Vigorous and resistant to wilt and rust. Fruits medium large, nearly round, smooth, and solid. Deep red. 77 days.

**Ponderosa**—One of the largest varieties. Spreading large vines. Solid, fine flavored, pink, with small seed cells. Somewhat rough and flat. Have a tendency to crack. 88 days.

**Pritchard's, or Scarlet Topper**—Medium to large, round, with thick, firm flesh and small seed cavities. Brilliant red throughout, coloring right to top, without hard green spots. Free from acidity, one of the best home canners. Early.

**Rutgers**—Second early variety. Large thick stems, vigorous foliage. Fruits similar to Marglobe but flatter at stem end. Bright red, with thick walls. Red, firm flesh, low acidity. 72 days.

### Small Fruited

**Red Cherry**—Small round fruits, 1/2 inch in diameter. For salads and pickling.

**Red Pear**—Bright red, pear-shaped, distinctive flavor.

**Red Plum**—Resembling a plum in shape. Grown for preserves.

**Yellow Pear**—Differs from Red Pear only in color.

**Yellow Plum**—About 2 in. long. Shaped like a plum. Light yellow in color.

## TURNIP

For summer greens or roots, sow as early as radishes and lettuce. Then cut when plants are 1" high. Sow again in summer for fall and winter use. Turnips do best when most of their growth is made in autumn or early spring. Should be grown rapidly for best flavor and texture.

**Golden Ball**—Medium size, deep yellow with bronze-green top. Creamy yellow flesh of fine texture. 65 days.

**Purple Top White Globe**—All purpose variety. Large, sweet tops. Smooth, globe-shaped roots, purple-red above, white below. Sweet, tender, crisp, white flesh. 50 to 60 days.

**Purple-Top Strap Leaf**—Home and market garden variety. Deep purplish-red on top, white below. Flesh white and never stringy.

## TURNIP — FOLIAGE

**Seven Top or Winter Greens**—Very hardy. The young shoots are tender. Roots tough and unsuitable for food. Popular in the South. 45 days.

### Rutabaga or Swede Turnip

**American Purpletop**—Hardy and productive. Tender, firm, light yellow, sweet flesh. 88 days.

# PLANTING BY THE MOON

Many gardeners like to govern their planting by the phases of the moon. For these gardeners, we show here all the necessary information. The chart is COMPLETE, giving you ALL THE DATA generally shown

by more voluminous arrangements. As seedsmen, we cannot vouch for the effectiveness of this method. However, we are glad to provide the up-to-date chart for those who want it.

## Signs of the Zodiac and Their Influence

♈ ARIES: Tends to dryness, barrenness. Fairly good for cultivating, spraying and destroying weeds. Plant onions.

♉ TAURUS: Fairly productive. A good sign for planting root crops particularly potatoes and bulbous plants.

♊ GEMINI: Dry and barren. Not good for any kind of planting or transplanting. Kill noxious growths.

♊ CANCER: Moist, very fruitful, most productive of the Zodiac. Planting and transplanting should yield good crops. Irrigate, bud, graft, transplant.

♊ LEO: Most dry and barren sign. Use only to kill weeds, destroy roots, etc.

♊ VIRGO: Moist but barren. Not recommended for planting or transplanting; good for cultivating and destroying.

♊ LIBRA: Fairly fruitful. Seed for hay, corn, fodder, etc. Produces vigorous pulp growth, reasonable amount of grain. Good for flowers.

♊ SCORPIO: Next to Cancer in productiveness. Irrigate but do not dig potatoes.

♊ SAGITTARIUS: Generally considered barren but used by many for onions, seeding for hay, destroying weeds, etc.

♊ CAPRICORN: Earthly, fairly productive. Similar to Taurus but drier. Bulbous flowers, potatoes, tubers, root crops.

♊ AQUARIUS: Somewhat barren. Good only for cultivation and extermination of pests.

♊ PISCES: Similar to Cancer so use for same purposes. Very productive. Do not dig potatoes.

## When to Plant

The table at the right shows when the moon enters each sign of the Zodiac. It also shows the moon's changes.

Under each month, we show first the time at which the moon enters each SIGN (day of the month and hour of the day, Central Standard Time). Then we show the moon CHANGES (day and hour) for each month.

● 1st QUARTER, MOON INCREASING — During 1st Quarter of Moon plant the following: Asparagus, Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Celery, Corn, Cucumbers, Endive, Kohlrabi, Leeks, Lettuce, Spinach, Barley, Oats, Rye, Wheat.

● 2nd QUARTER, MOON INCREASING — During 2nd Quarter of Moon plant the following: Beans, Egg Plant,

Melons, Peas, Peppers, Pumpkins, Squash, Tomatoes, flowers, and cereals.

When possible, plant seed while the Moon is in the fruitful signs of Cancer, Scorpio or Pisces. The next best signs are Taurus, Libra and Capricorn.

☾ 3rd QUARTER, MOON DECREASING — During 3rd Quarter of

Moon plant the following: Beets, Carrots, Chicory, Parsnips, Potatoes, Radishes, Rutabagas, Onions, Turnips, Tubers.

☾ 4th QUARTER, MOON DECREASING — In 4th or Last Quarter of the Moon turn sod, pull weeds, and destroy noxious growths, especially when Moon is in the barren signs, Gemini, Leo, Virgo or Aquarius.

## 1947 — Moon's Phases and Positions — 1947

JANUARY	APRIL	JULY	OCTOBER
1 ☾ 7:06p.	2 ♊ 2:30a.	2 ♊ 7:03a.	1 ☾ 8:15p.
3 ♊ 9:25p.	4 ♋ 6:40a.	4 ♋ 7:49p.	4 ♊ 1:43a.
5 ☾ 9:28p.	6 ♊ 12:58p.	7 ♋ 8:93a.	6 ☾ 5:47a.
7 ☾ 8:54p.	9 ♋ 10:13p.	9 ♋ 6:34p.	8 ☾ 8:41a.
9 ♊ 9:46p.	11 ♊ 10:09a.	12 ☾ 2:11a.	10 ♊ 10:57a.
12 ☾ 1:55a.	13 ♋ 10:50p.	14 ♊ 6:16a.	12 ☾ 1:32p.
14 ♊ 10:16a.	16 ♋ 9:46a.	16 ☾ 7:14a.	14 ♊ 5:47p.
16 ♋ 10:03p.	18 ♋ 5:25p.	18 ☾ 6:34a.	17 ♋ 12:54a.
19 ♊ 11:10a.	20 ☾ 9:55p.	20 ♊ 6:19a.	19 ♊ 11:14p.
21 ♋ 11:36p.	23 ♊ 12:28a.	22 ☾ 8:34a.	21 ♋ 11:39p.
24 ♋ 10:22a.	25 ☾ 2:22a.	24 ♊ 2:42p.	24 ♋ 11:45a.
26 ♋ 7:10p.	27 ☾ 4:44a.	27 ♋ 12:41a.	26 ♋ 9:30p.
29 ☾ 1:45a.	29 ♊ 8:15a.	29 ♊ 1:02p.	29 ☾ 4:16a.
31 ♊ 5:52a.			31 ♊ 8:35a.
CHANGES	CHANGES	CHANGES	CHANGES
☾ 6:10:47p.	☾ 5:9:28a.	☾ 3:4:38a.	☾ 7:4:29a.
☾ 13:8:56p.	☾ 13:8:23a.	☾ 11:4:54a.	☾ 14:12:10a.
☾ 22:2:34a.	☾ 20:10:19p.	☾ 17:10:15p.	☾ 21:7:11p.
☾ 29:6:07p.	☾ 27:4:18p.	☾ 24:4:54p.	☾ 29:2:07p.
FEBRUARY	MAY	AUGUST	NOVEMBER
2 ☾ 7:38a.	1 ☾ 1:25p.	1 ♋ 1:50a.	2 ☾ 11:31a.
4 ☾ 8:01a.	3 ♊ 8:36p.	3 ♋ 1:49p.	4 ☾ 2:04p.
6 ♊ 8:43a.	6 ♋ 6:09a.	6 ♋ 12:19a.	6 ♊ 4:55p.
8 ☾ 11:41a.	8 ♊ 5:55p.	8 ☾ 8:43a.	8 ☾ 8:43p.
10 ♊ 6:28p.	11 ♋ 6:41a.	10 ♊ 2:18p.	11 ♊ 2:03a.
13 ♋ 5:16a.	13 ♋ 6:20p.	12 ☾ 4:49p.	13 ♋ 9:34a.
15 ♊ 6:12p.	16 ♋ 2:55a.	14 ☾ 5:06p.	15 ♊ 7:37p.
18 ♋ 6:38a.	18 ☾ 7:51a.	16 ♊ 4:49p.	18 ♋ 7:45a.
20 ♋ 4:57p.	20 ♊ 9:50a.	18 ☾ 6:04p.	20 ♋ 8:16p.
23 ♋ 12:57a.	22 ☾ 10:25a.	20 ♊ 10:46p.	23 ♋ 6:53a.
25 ☾ 7:07a.	24 ☾ 11:18a.	23 ♋ 7:35a.	25 ☾ 2:05p.
27 ♊ 11:46a.	26 ♊ 1:51p.	25 ♊ 7:31p.	27 ♊ 5:55p.
	28 ☾ 6:54p.	28 ♋ 8:18a.	29 ☾ 7:31p.
	31 ♊ 2:43a.	30 ♋ 8:04p.	
CHANGES	CHANGES	CHANGES	CHANGES
☾ 5:9:50a.	☾ 4:10:53p.	☾ 1:7:50p.	☾ 5:11:03a.
☾ 12:3:58p.	☾ 13:2:08a.	☾ 9:2:22p.	☾ 12:2:01p.
☾ 20:8:00p.	☾ 20:7:44a.	☾ 16:5:12a.	☾ 20:3:44p.
☾ 28:3:12a.	☾ 26:10:35p.	☾ 23:6:40a.	☾ 28:2:45a.
MARCH	JUNE	SEPTEMBER	DECEMBER
1 ☾ 2:58p.	2 ♋ 12:55p.	2 ♋ 6:02a.	1 ☾ 8:30p.
3 ☾ 5:00p.	5 ♊ 12:52a.	4 ☾ 2:10p.	3 ♊ 10:24p.
5 ♊ 6:46p.	7 ♋ 1:39p.	6 ♊ 8:18p.	6 ☾ 2:14a.
7 ☾ 9:52p.	10 ♋ 1:46a.	9 ☾ 12:11a.	8 ♊ 8:25a.
10 ♊ 3:52a.	12 ♋ 11:32a.	11 ☾ 2:03a.	10 ♋ 4:49p.
12 ♋ 1:35p.	14 ☾ 5:45p.	13 ♊ 2:51a.	13 ♊ 3:14a.
15 ♊ 2:01a.	16 ♊ 8:21p.	15 ☾ 4:17a.	15 ♋ 3:16p.
17 ♋ 2:35p.	18 ☾ 8:32p.	17 ♊ 8:11a.	18 ♋ 3:59a.
20 ♋ 12:57a.	20 ☾ 8:07p.	19 ♋ 3:50p.	20 ♋ 3:36p.
22 ♋ 8:22a.	22 ♊ 9:02p.	22 ♊ 2:58a.	23 ☾ 12:10a.
24 ☾ 1:29p.	25 ☾ 12:53a.	24 ♋ 3:38p.	25 ♊ 4:47a.
26 ♊ 5:16p.	27 ♊ 8:17a.	27 ♋ 3:24a.	27 ☾ 6:03a.
28 ☾ 8:26p.	30 ♋ 6:46p.	29 ♋ 12:57p.	29 ☾ 5:41a.
30 ☾ 11:22p.			31 ♊ 5:47a.
CHANGES	CHANGES	CHANGES	CHANGES
☾ 6:9:15p.	☾ 3:1:27p.	☾ 7:9:57p.	☾ 4:6:55p.
☾ 14:12:28p.	☾ 11:4:58p.	☾ 14:1:28p.	☾ 12:6:53a.
☾ 22:10:34a.	☾ 18:3:26p.	☾ 21:11:42p.	☾ 20:11:43a.
☾ 29:10:15a.	☾ 25:6:25a.	☾ 30:12:41a.	☾ 27:2:27p.

All Vegetable Seeds  
**10¢ PER PACKET**  
UNLESS OTHERWISE NOTED

In bulk at money-saving prices.  
Special quotations to market gardeners.  
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# "Maybe this will help"

## —SAYS THE OLD GARDENER



**Some random notes on points that may need clearing up...and on gardening ideas you may be overlooking...**

Have you ever tried "double digging" (the old-time European way)? Are you making use of cover-cropping in your vegetable garden? Do you know which fertilizers last 10 years or more? Or how a hotbed can do double duty? Or how far weed control should extend beyond your garden boundaries? Here are practical answers to these and other practical questions.

### **Cover crops—after vegetables —to improve your soil**

Save and improve your soil and plant food supply by growing cover crops. After a row of vegetables has been harvested (if you aren't planting a succession crop in this spot) sow some quick-growing plant that will take up any excess fertilizers and store them in its tissues. Plow under that plant just before the next crop goes in, and decay will release that plant food just in time to do the most good. Also, the rotting vegetable matter produces humus, without which good crops cannot be grown. Ask us for advice on cover crops for the garden.

### **Drainage—too much or not enough?**

Low, wet spots will produce better crops if drained by tiling. Oftentimes an open trench leading water away from a low spot can be filled with crushed stone or gravel and will perform as well as more elaborate tiling.

Or the problem may be one of *too much* drainage—a steep slope that allows water to run off so rapidly that it causes washing or erosion. Remember that not only does surface washing carry off soil, but it also carries with it the valuable soluble plant foods as well. Grading and terracing may be too costly for most gardens, but oftentimes a simple plank set on edge will control the rush of water and hold back soil and plant foods.

### **Hotbeds and cold frames**

Permanent hotbeds and cold frames for the permanent garden are a good investment. If possible make them of materials like concrete, concrete block or brick. If of wood, try to use redwood, cypress or red cedar.

A windbreak to the north for hotbeds and cold frames will provide protection in late fall and early spring. Plan to use cold frames late in fall for salad crops like lettuce. They can be used for storing vegetables, too.

### **COMPOSTING—how to do it, and why**

The compost heap is a "must" for the permanent garden. Select a spot behind a shed or otherwise hidden (if your garden is in the open) and spread out your garden wastes over this area in a layer six inches deep. Use weeds, old vegetable and flower plants, any non-greasy vegetable waste from the kitchen and lawn clippings. Trimmings from lawn edging are particularly valuable.

Between each six inch layer, sprinkle a little lime and a liberal amount of a good mixed fertilizer. The fertilizer will feed the bacteria that cause the vegetable wastes to decay. Then apply three or four inches of good garden soil over the lime and fertilizer. Repeat until the pile is two feet high. Wet down if rain doesn't fall. In six months all weed seeds and other vegetable matter will be broken down by the bacteria into a rich home made "manure" that will go a long ways towards making yours a perfect soil. You need not waste the space used for the heap, since cucumbers, melons and squashes never grow as well as when planted in shallow depressions in the compost heap.

### **"Long-pull" fertilizers**

It is profitable to apply many long-lasting fertilizers to the permanent garden which will last for years. For instance, superphosphate or bone meal may last for ten or fifteen years before becoming available. Also, potash, such as muriate or sulfate of potash lasts a long time without washing away. Use fertilizers liberally on the permanent garden—it pays.

Liming will help break up heavy clay and will sweeten acid soil. But don't use lime unless it is needed, since too much lime destroys humus. Use only when needed. We can supply a simple test kit that shows if lime is needed, and if so, how much. Litmus paper is not enough: it only shows a plus or minus reading.

### **Old fashioned double digging is still a good idea**

The gardener who takes pride in doing a first class job should consider trenching or double digging his soil in the way the old-time European gardeners did. To double dig, remove a trench of soil just the width and the depth of a spade, and wheel this soil to the end of the garden where you plan to finish. Next, add a layer four or five inches deep of compost or manure to the bottom of the trench and dig it in. Then dig the soil from the next row and throw it on top of the soil you have just dug over. Repeat this process across the entire garden and you should have a loose, well-drained soil with a rich subsoil. While this sounds unnecessarily complicated, actually it is quite simple and is worth the effort it costs. It is particularly valuable for root crops, and where heavy clay soils need to be broken up.

### **Ever considered a garden windbreak?**

Many gardeners who have experienced failure with their summer plantings should consider planting a windbreak to slow down the force of the hot, dry winds that suck moisture from the soil and burn up tender seedlings. A summer windbreak should be located to cut off the prevailing summer breezes, usually to the south or southwest of the garden. Because garden plots are small and because garden plants are low-growing, a hedge five to six feet tall should be enough. This will not cut off breezes from the house. A hedge of privet or similar hedging should be adequate.

### **Gardens need SANITATION, too**

Weed control for a distance of at least 25 feet on all sides of the permanent garden is highly desirable. First, this helps reduce the number of weed seeds that will be carried or blown onto the garden itself. A few hours spent in weed control at any convenient time may save hours and days of weeding when time is precious.

Equally important is the value of destroying the hiding places of many insects that cause trouble in the garden. Leaf hoppers and borers travel from weedy patches to garden plants. Many pests hibernate and live over winter in weeds. By killing off weeds and keeping this zone dusted with D.D.T., fewer insects will attack the garden. Incidentally, chiggers or harvest mites are kept down by this treatment, increasing comfort in working the garden.

Weed destruction today has been simplified greatly with the discovery of the amazing new 2,4D weed killers which destroys weed selectively and without danger to animals or equipment. See pages 36 and 39.



## Time to plant a few trees?

A tree is the one permanent investment that grows in value rather than decreasing. With practically no upkeep cost, a \$5.00 tree planted today may be worth anywhere from \$100 to \$500 ten years from now. No other investment the home owner can make will pay as big a return as will a well-placed tree of some permanent species. While the actual increase in dollar value is important, its dividends in shade and beauty are often considered worth far more than the appreciation over first cost.

Remember that trees cannot be dug up each year to renew the soil: try to incorporate all of the organic matter you can spare (up to one-third the total volume of the soil) in filling in around the

roots when you plant. Organic matter releases only about 2% of its nitrogen each year, which means that for the next 50 years it will help feed the tree you plant today.

A tool shed or chest for storing garden tools is a great convenience. It saves time and effort in lugging tools and other equipment in and out of basement or garage. A well-designed tool shed can even be an attractive addition architecturally to the property.

## Low fencing for pest control

To shut out pests like rabbits, gophers and pheasants, a good fence will pay in the permanent garden where it would

have been too costly for a temporary plot. An attractive fence can be made by stretching two-foot high close mesh and planting hedge shrubs on both sides. The wire will turn all pests that walk, and flying pheasants rarely fly over this type of hedge if it is closely planted. If a wire fence must be used because of space limitations, plan on covering it with some woody vine. Do not grow tender vines like sweet peas on a wire fence because the hot sun will heat up the wire enough to stunt the growth of pea vine tendrils.

In the permanent garden, perennial vegetables like rhubarb and asparagus will pay their way. Use one end of the garden for these, so they can be left in place year after year without interfering with the annual crops.

# How, when, where, why in the FLOWER GARDEN

## A—These do well when sown where they are to bloom

These annuals can be started outdoors directly for blooming where sown, or can be transplanted if they come up too close together. A special outdoor seed bed can be used to start enough plants to fill an entire garden. Because of the small area that will be needed, a special soil, made up as recommended under "Starting Seedlings Indoors," can be used in this bed. This method is convenient when tulips and other bulbs occupy the beds in early spring.

## B—Do not transplant these

These annuals do not tolerate transplanting, and should be sown thinly where they are to bloom. Mixing seed with sand before sowing will help distribute them evenly and thinly. Thin to proper spacing if they come up too thickly.

## C—Seed these early —or in late fall

The hardy annuals in this group can be sown outdoors as soon as the soil can be worked in spring. Or they can be seeded in fall, just before the soil freezes for the winter and will sprout long before the soil can be worked in spring. Because these early seedlings are usually through blooming by midsummer, be ready to replant the bed with other annuals for late bloom.

## D—Seed almost any time (but shade the seedlings)

Perennials (plants that live over from year to year) can be seeded at any time after the danger from frost is over up to early summer. They are best started in a cold frame with some provision for shading the bed. If no cold frame is available, grow them in flats placed under the shade of trees or shrubs, but light sunshine should filter through to

For simple cultural data on each of the flowers listed here, refer to the notes indicated by the letter after each.

Ageratum .....	A	Carnation .....	C
Alyssum (a) ...	A	Castor Bean ...	B
Alyssum (h.p.)	D	Celosia .....	A
Anchusa .....	B	Chrysanth'mum	A
Antirrhinum ...	C	Clarkia .....	B
Aquilegia .....	D	Cleome .....	B
Arctotis .....	A	Coreopsis .....	D
Aster .....	A	Cosmos .....	C
Bachelor's Button	C	Cynoglossum ...	B
Balloon Vine ...	C	Dahlia .....	A
Balsam .....	B	Delphinium ...	D
Blue Lc. Flower	B	Dianthus .....	C
Calendula .....	C	Eschscholtzia ...	C
Calliopsis .....	A	Everlas'g Flwr. .	A
Candytuft .....	C	Four O'Clock ...	B

Gaillardia .....	A	Morning Glory...	B
Gaillardia .....	D	Nasturtium ....	B
Geum .....	D	Nemophila .....	A
Godetia .....	A	Nicotiana .....	A
Gourds, Ornmtl.	B	Pansy .....	D
Gypsophila ....	D	Petunia .....	C
Helianthus .....	D	Phlox .....	C
Hollyhock .....	D	Poppy, Ic. Mxd.	A
Kochia .....	B	Portulaca .....	C
Larkspur .....	C	Salpiglossis ...	A
Linum (a) .....	A	Scabiosa .....	A
Linum (w.p.) ...	D	Schizanthus ...	A
Lobelia .....	A	Shasta Daisy ...	D
Lupines .....	C	Snow-on-the-Mt.	B
Lupins .....	D	Statice .....	A
Marigold .....	A	Stocks .....	A
Mignonette ...	C	Tithonia .....	B
Moon Flower ...	B	Verbena .....	A
		Zinnia .....	A

them: perennial seedlings won't grow in full shade. To shade cold frames from full sunlight, cover ordinary window screens with cheesecloth or muslin.

After sowing, keep watering with a fine spray (they may need watering twice a day in midsummer heat) until seedlings are ready to transplant. If three pairs of leaves have formed at least a month before killing frost is expected, they can be moved into permanent position the same fall: otherwise carry over in the cold frame until spring. Many perennial seeds sprout slowly: if you have followed directions don't worry if they don't show up within a week or two.

## E—Start these indoors for early bloom

These will do well when sown directly in the garden and where late bloom is wanted, some of the packet should be planted in this way. For outdoor culture, see "A." However, for early bloom, some of the seed should be started indoors.

## F—These vines need special treatment

This is for vines that don't transplant well, but need a long season to flower. All need rather high heat, so a warm spot (temperature between 75° to 85°) is necessary. However, watch out that high heat does not dry out seedlings.

Fill 3" pot with seed-starting mixture of soil. Press two seeds into each pot and water well, place in heat until seeds sprout. May be grown in a sunny window, even if cooler, once seedlings are up. As soon as vines begin to twine, provide a stake for support. When danger from late frost is over, knock plants out of pots, disturbing roots as little as possible and set where they are to grow.

If early bloom is not wanted, direct seed outdoors, but ground must be warm (wait until after late irises and lilacs have faded). Do not grow in rich soil as this promotes leafy growth at expense of flowers. If soil is rich, add gravel or old weathered coal ashes.

# The finest FLOWER SEEDS in the world

## KEY TO SYMBOLS

The symbols after the name of each flower give you the following information:

(a)—Annual (hhp)—Half-hardy Perennial  
(b)—Biennial ♦—Suited to full shade  
(hp)—Hardy Perennial •—Suited to semi-shade

Information on how to grow is indicated by the Culture Number. Refer to Page 27 for complete data.

The initials "A-A" indicate winners of the All-America Awards.

**AGERATUM (a)**—Culture II. Cover  $\frac{1}{8}$ -in. Blooms early summer to frost. Ht.  
**Blue Cap**—New, dwarf. Rich, deep blue. Pkt. 15c. 6"  
**Blue Perfection**—Deep Amethyst-blue. 9"  
**Midget Blue**—1940 "A-A." Azure blue. Pkt. 25. 2-3"

**ALYSSUM (a) •**—ANNUALS. Culture II. Cover  $\frac{1}{4}$ -in. Blooms early summer to frost.  
**Carpet of Snow**—White flowers. Plants  $1\frac{1}{2}$  ft. across. 3"  
**Little Gem**—Clouds of honey-scented white flowers. 3"  
**Lilac-Queen**—Lavender-lilac flowers. 6"  
**Violet Queen**—Dwarf, compact, free flowering. Sweet scented; rich, deep violet. Pkt. 15c.

**ALYSSUM (hp) •**—PERENNIALS. Culture VI. Cover  $\frac{1}{8}$ -in. Blooms early spring.  
**Saxatile Compactum (Gold Dust)**—Brilliant golden-yellow flowers and grayish-green foliage. 12"  
**ANCHUSA, Blue Bird (a) •**—Culture II. Cover seeds  $\frac{1}{8}$ -in. Sprays of indigo blue flower. 20-24"

**ANTIRRHINUM (a) • (Snapdragon)**—Culture I. Cover  $\frac{1}{8}$ -in. Sow early. They germinate slowly.  
**Maximum (Tallest Varieties)**—Rust-resistant. Best for wealth of flower spikes. Mixed. Pkt. 15c.  
**Large Flowered (Tall Giant)**—Fine for bedding or cutting. Long, heavy spikes. Mixed. Pkt. 15c.  
**Super Majestic (Semi-tall)**—Large flowers on semi-tall plant. Rust-proof. Mixed. Pkt. 15c.  
**Half-Dwarf (Large Flowered)**—Very good for bedding. Heavy spikes and good length. Mixed. Pkt. 15c.  
**Guinea Gold**—Delightful flowers of bronzy orange blended with yellow. Bloom early. Pkt. 15c.

**AQUILEGIA (Columbine) (hp) •**—Culture VI. Covers  $\frac{1}{8}$ -in. Prefers light shade, fairly rich soil. 18-24"  
**Mrs. Scott Elliott's Long-Spurred**—Extremely large flowers, wide range pastel colors. Pkt. 20c.

**ARCTOTIS (Blue-eyed African Daisy) (a)**—Culture I. Cover  $\frac{1}{8}$ -in. Blooms to frost. Prefers sun. 30"  
**Grandis**—Pure white blooms, bluish center, gold band.  
**ARMERIA (Thrift) (hp)**—Rock-garden or edging plant of bright rose and white. Pkt. 15c.

**ASTER (a)**—Culture I. Cover  $\frac{1}{8}$ -in. Need rich soil, good sun. Var.  
**American Branching**—Most popular.  $3\frac{1}{2}$  to 4-in. double blooms. Branching, long stems. All colors. 24-36"  
**California Giant Improved**—5-in. double flowers, with long curled petals; stems  $1\frac{1}{2}$  to 2-ft. long. Branching. All colors. Pkt. 15c. 24-36"  
**Giant Crego (Wilt-resistant)**—Flowers 4 to 5-in. double, petals curled and twisted. Vigorous, branching. Long stems. All colors. Pkt. 15c. 24"  
**Giant Crego Navy Blue**—1943 "A-A." argely 4-in. double flowers, deep purple blue. Pkt. 25c. 12-20"  
**Queen of the Market (Wilt-resistant)**—First to bloom. Nearly round, double, 3-in. flowers, long stems. Spreading. All colors. 18"

**BABY'S BREATH**—See Gypsophila.

**BACHELOR'S BUTTON (a) (Centaurea or Cornflower)**—Culture IV. Cover  $\frac{1}{4}$ -in. Ht.

**Blue Boy**—Very fine, fully double. Blue. Pkt. 15c.  
**Imperialis**—These Giant Sweet Sultans bloom in delicately colored fringed blossoms. Sow early. Pkt. 15c.  
**Jubilee Gem**—"A-A" 1937. Completely covered with large, double, deep blue flowers. Pkt. 15c. 12"  
**Pinkie**—Double, deep pink. Pkt. 15c.  
**Red Boy**—Deep glowing red. Pkt. 15c.  
**White**—Glistening snow-white.

**Mixed**—  
**BALLOON VINE (Love-in-a-Puff) (a)**—Culture III. Cover  $\frac{1}{2}$ -in. Rapid growing climber. White flowers, succeeded by small, balloon-like seed-pots. 8-10"

**BALSAM (Lady-Slipper) (a) •**—Culture II. Cover  $\frac{1}{4}$ -in. Double, camellia-like flowers. Wants partial shade, plenty of moisture. Sow late. 24"

**BLUE LACE FLOWER (Didiscus) (a)**—Culture I. Cover seeds  $\frac{1}{8}$ -in. Blooms midsummer. Clusters of lavender-blue  $2\frac{1}{2}$ -in. flowers, like tiny parasols. 24"

**BURNING BUSH or FIRE BUSH**—See Kochia.

**CALENDULA (a) (Pot Marigold)**—Culture II. Cover  $\frac{1}{4}$ -in. Midsummer to frost. Grows anywhere. Stands drought and heat. Transplant to 12 to 16-in. apart. 18-20"  
**Campfire Improved**—Double flowers, deep orange. Heavy stems. Pkt. 15c. 4"

**Orange King**—Extra fine, deep orange, dark center  
**Orange Shaggy**—"A-A" 1935. Deep orange, lighter centers; Chrysanthemum-like blooms.

**Mixed**—

**CALLIOPSIS (a) (Tickseed)**—Culture IV. Cover  $\frac{1}{8}$ -in. Blooms all summer. Bright varied combinations. Var.  
**Golden Crown**—"A-A" 1938. Improved rich yellow, maroon center. Pkt. 15c.  
**Tall, Mixed**—

**CAMPANULA (Canterbury Bells) (a)**—Culture I. Cover  $\frac{1}{8}$ -in. Blooms 5 to 6 months after seeding. 18"  
Bushy plants, bell-shaped flowers. 18"  
**Single**—All colors—white, pink, blue and lilac.  
**Single and Double Mixed**—Fine for summer borders.  
**CANDYTUFT (Iberis) (a)**—ANNUALS: Culture III. Cover  $\frac{1}{4}$ -in. Blooms in 8 weeks. Blooms all season if not allowed to seed. Will grow in dry, sandy soil. 6-12"

**CARNATION (a)**—Culture I. Cover  $\frac{1}{8}$ -in. 15"  
**Chaubaud's Giant**—Double, extra large, clove-scented. Blooms 5 months after seeding. Pkt. 15c.  
**CASTOR BEAN (Ricinus) (a)**—Culture II. Cover seeds  $\frac{1}{2}$ -in. Broad tropical leaves and brilliant colored fruits. Needs good soil, ample sun and moisture. 6-15'

**CELOSIA (Cockscomb) (a)**—Culture I. Cover  $\frac{1}{8}$ -in. Midsummer to frost. Var.  
**Childsii Type (Chinese Woolflower)**—Large heads like wool chenille balls of bright, rich red. 24"  
**CENTAUREA**—See Bachelor's Button.

**CHRYSANTHEMUM (a)**—Culture II. Cover  $\frac{1}{8}$ -in. 24"  
Favorite flower for fall bloom. Pleasing color range.  
**Painted Daisy**—Blooms profusely during summer. Some of one color but most have gorgeous multi-colored bands.  
**Single Mixed**—

**CLARKIA (a)**—Culture IV. Cover  $\frac{1}{4}$ -in. Bushy plants, many rosette-like flowers set along stem. 24"

**CLEOME (Spider Plant), Pink Queen (a)**—Culture II. Cover  $\frac{1}{4}$ -in. 1942 "A-A." Huge heads of refreshing pink. Turn to white before falling. Pkt. 15c.

**CLOVER STRAWFLOWER**—See Everlasting Flowers.

**COCKSCOMB**—See Celosia.

**COLUMBINE**—See Aquilegia.

**CONEFLOWER**—See Rudbeckia.

**COREOPSIS (hp)**—Culture VI. Cover seeds  $\frac{1}{4}$ -in. Long blooming season. Daisy-like yellow flowers with broad fluted petals. Long stems. 24"

**CORNFLOWER**—See Bachelor's Button.

**COSMOS (a)**—Culture IV. Cover seeds  $\frac{1}{4}$ -in.  
**Dazzler**—Deep crimson maroon. Flowers, 4 to 5-in. across, with broad, fluted petals. 1943 "A-A." Pkt. 25c.  
**Orange Flare**—"A-A" 1935. Early flowering. 24-36"

All Flower Seeds **10¢ PER PACKET**  
except where otherwise noted

# All-America Selections AND OTHER RECOMMENDED NOVELTIES



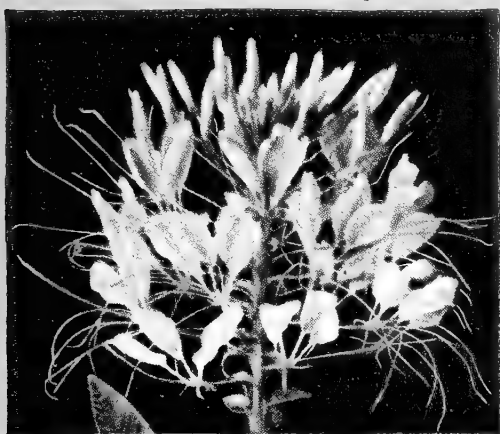
**ZINNIA, Black Ruby**



**MARIGOLD, Naughty Marietta**



**PETUNIA, Rose Marie**



**CLEOME, Pink Queen**



**PETUNIA, Cheerful**



**MARIGOLD, Flash**

## HOW? WHEN? WHERE? WHY?

### D. D. T. and Aster Yellows

Though wilt resistant asters solved the wilt problem, Aster Yellows are still a menace. Now, with D.D.T., we can keep off the leaf hopper, the insect that carries the virus of Yellows to the Aster plant. Regular spraying or dusting with D.D.T. will leave a residue which will kill the leaf hopper when it lights on the plant and before it can stab the leaves and pass on the virus. So if your Asters have been disappointing lately, try again, using D.D.T.

### Large Flowered and Double Petunias

These should never be direct seeded outdoors, but must be started indoors. Use a flat filled with seed-starting mixture. Press soil with a brick or flat piece of wood to firm it. Wet thoroughly. Then broadcast the seed on the surface of the soil. Cover entire flat with a pane of glass and then with a sheet of newspaper. Set in a warm, dark place at 75° to 85° until seed germinates. Then move to a sunny window. If flat dries out slightly before seed sprouts, water carefully with an atomizer. Transplant seedlings when second pair of leaves forms. Move into the garden after danger from frost is past.

### Formula for Pansy Growing

Pansies are not annuals but near-hardy perennials that need special

culture. Cold frames, with glass sash and mats for winter protection are essential. Soil should be rich: up to one-third of soil can be well-rotted manure or sifted compost. Sow seed in August. Protect frame with shades made by tacking muslin or cheese cloth over window screens. Thin plants to stand 4" x 4". After first frosts, cover with glass and mats, and allow to freeze slowly. Remove mats in early spring and allow sun to warm frame. Move plants into permanent position when in full bloom. Keep faded flowers picked: they will stop blooming if any seeds are allowed to form. Growing good Pansies from seed is the test of a real gardener.

### Removing Flowers

The gardener can lengthen the blooming season of all annuals and some perennials by removing old flowers as soon as they fade, and preventing the plant from going to seed. Delphiniums and Canterbury Bells will usually respond to this treatment by producing a second crop of flowers in fall.

### Two Interesting House Plants

The Heavenly Blue Morning Glory makes an excellent house plant for winter flowering if grown in a sunny window. Start new plants in late August, using 6" pots (they make heavy root growth). They can be trained up strings on either side of

## Practical answers to every-day questions about home gardening

the window. Lobelia plants can be lifted just before frost, cut back, potted and will flower indoors in late winter.

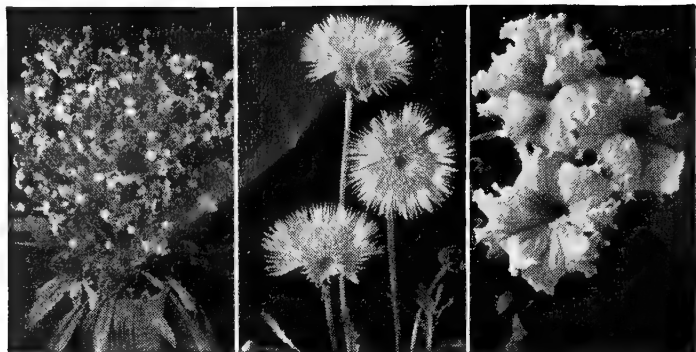
### Pinching Back

If sturdy, stocky plants are wanted, they will need "pinching back." When five or six pairs of leaves have formed, pinch out the top, leaving two or three pairs of leaves on the stem. New shoots will come where the leaves join the stem. Sometimes a second pinch can be made, when these new shoots in turn have formed four or five pairs of leaves, leaving two pairs on each. Pinching increases the number of flowers, though sometimes it decreases their size. Petunias particularly need pinching back if they are to remain short. Towards the end of the flowering season, after Petunias have grown long and lanky, they can be cut back to within an inch or two of the ground and they will throw out new growth. If given a light feeding of mixed fertilizer, these rejuvenated plants will often bloom as well as younger plants early in the season.

### Flowers in the Vegetable Garden

To have plenty of cut flowers without disturbing your flower borders, plant a few rows of flowers along the edge of your vegetable garden. Or set them out between rows of early lettuce or radishes, where they can bloom after the vegetables have been used.





CYNOGLOSSUM  
Firmament

CENTAUREA  
Imperialis

PETUNIA  
Dainty Lady

**Orange Ruffles**—Semi-double, large. Free blooming over long period, if old flowers are removed. 10 days earlier than Orange Flare. Pkt. 15c.

**Sensation Mixed**—Largest, earliest. Flowers up to 5-in. across. "A-A" 1936.

**Yellow Flare**—"A-A" 1942. First yellow Cosmos. Single, 2 to 2½-in. flowers in great masses. Slightly later than Orange Flare. Pkt. 15c.

## CYNOGLOSSUM (Chinese Forget-Me-Not) (a)

—Culture II. Cover seeds ⅛-in.

**Firmament**—New dwarf type, with busy plants and bright blue color. "A-A" 1939. Pkt. 15c.

**DAHLIA (a)**—Culture I. Cover seeds ¼-in. Usually grown from roots, but can be raised from seed.

**Unwin's Ideal Bedding**—Miniature double and semi-double colorful flowers; dwarf bushy plants. Long-lasting cut flower. Pkt. 15c.

**DAISY, AFRICAN**—See Arctotis.

**DELPHINIUM (hp)** ●—Culture VI. Cover ⅛-in.

**Giant Pacific Hybrids**—Very large, well-shaped florets, tall, slender spikes. Pkt. 50c.

**Wrexham Hybrids**—Hollyhock-flowered strain. Pkt. 35c.

**DIANTHUS (Pinks) (a)**—Culture VI. Cover ⅛-in.

Blooms all summer.

**Single Mixed**—

**Double Mixed**—

**DIDISCUS**—See Blue Lace.

**DIGITALIS**—See Foxglove.

**ESCHSCHOLTZIA (California Poppy) (a)** ●—Culture III. Cover ⅛-in. Midsummer to frost. Prefers sun. Large, silky flowers, red, gold, orange, scarlet, chestnut, pink.

**EUPHORBIA**—See Snow-on-the-Mountain.

**EVERLASTING FLOWER (a) (Globe Amaranth, Gomphrena Everlasting or Clover Strawflower)**—Culture II. Cover ⅛-in. Blooms all summer. Retains natural colors when cut in bud and dried.

**STRAWFLOWER (Helichrysum)**—Large double flowers.

**FOUR O'CLOCK (a)** ●—Culture III. Cover ¼-in. Thrives under any conditions. Red, yellow, rose, white, lilac blossoms open in mid-afternoon.

**FOXGLOVE (Digitalis) (b)** ●—Culture VI. Cover seeds 1/16-in. Hardy Biennials for tall borders. Tall spikes of bell-shaped blossoms. All colors.

**GAILLARDIA (a) (Blanket Flower)**—ANNUALS: Culture II. Cover ⅛-in. Blooms all summer.

**Single Mixed**—

**Double Mixed**—

**GAILLARDIA (hp)** —PERENNIALS: Culture VI.

Cover ⅛-in. Show blooms in orange, yellow, red and maroon. Withstands drought, heat.

**Perennial Monarch Mixed**—Large range of colors.

**GEUM (hp)**—Culture VI. Cover ⅛-in. Flowers like tiny double roses, long stems, prized for cutting. Pkt. 15c.

**GILLFLOWER**—See Stocks.

**GLOBE AMARANTH**—See Everlasting Flowers.

**ODETIA (Satin Flowers) (a)** ●—Culture II. Cover ⅛-in. Bushy plants with masses of Azalea-like flowers. Thrives best in moist and half-shade.

**Double Mixed**—Long spikes, pom-pom-like blossoms.

**GOURDS, ORNAMENTAL (a)**—Culture II. Cover seeds ½-in. Useful climbers, large foliage; singularly shaped. Last years when fully ripened and cured. Mixed.

**GYSOPHILA (hp)**—PERENNIALS: Culture VI. Cover ⅛-in. Perennial White—Tiny flowers on slender stems, producing a mist-like effect.

**HELIANTHUS, Sun Gold (Sunflower) (a)**—Culture II. Cover ¼-in. New! 100% double flowers. Pkt. 15c.

**HELICHRYSUM**—See Everlasting Flowers.

**HEUCHERA (Coral Bells) (hp)**—Bright coral red flowers on wiry stalks. Charming for low border or rock garden. Pkt. 15c.

**HOLLYHOCK (hp)**—Culture VI. Cover seeds ¼-in. Succeed best in deep, rich, well-drained soil. Like warm, sunny place.

**Double Mixed**—

**IMPOMOEA**—See Morning Glory.

**KOCHIA (Burning Bush or Fire Bush) (a)**—Culture II. Cover ⅛-in. Close, compact, bright green pyramidal bush, moss-like foliage that turns brilliant red in fall. Fine hedge plant.

**LADY SLIPPER**—See Balsam.

**LARKSPUR (a)**—Culture IV. Cover ⅛-in. Blooms all summer. Clustered flowers. Tall spikes. Feathery foliage.

**Blue Spire, Giant Imperial**—Best blue. Pkt. 15c.

**White King, Giant Imperial**—Large double, pure white. Pkt. 15c.

**Giant Imperial Mixed**—Pkt. 15c.

**Pink Perfection**—2 in. florets. Pkt. 15c.

**Ruby**—Giant Imperial, glorious red double florets. Pkt. 15c.

**LINUM (a)** ● —PERENNIAL: Culture III. Cover ⅛-in. Need sun.

**Scarlet Flax**—Brilliant glossy-red flowers.

**LINUM (hp)** ● —PERENNIAL: Culture VI. Cover ⅛-in. Need sun.

**Perennial Blue**—Light blue, upright flowers in great profusion all summer.

**LOBELIA, Crystal Palace (a)**—Culture V. Cover 1/16-in. Small, round, compact plants covered with deep blue flowers, dark foliage.

**LUPINES (a)** ●—Culture III. Cover seeds ½-in. Prefers light shade. Long spikes of large dark blue, sky blue, rose, or white flowers. Mixed.

**LUPINS (hp)**—Russell's Choice Mixed—Wonderful border flower of many lovely colors. Gold Medal winner, 1937. Pkt. 25c.

**MARIGOLD (a)**—Culture II. Cover ⅛-in. Blooms early and late.

**Burpee's Gold**—Extremely large, sweet-scented, double. Odorless foliage. Pkt. 15c.

**Butterball, Dwarf French Double**—"A-A" 1942. Compact plants; very early. 1½-in. blooms. Pkt. 15c.

**Crown of Gold, Odorless**—"A-A" 1937. Short, quilled center petals, with flat, deep orange guard petals. Branching plant. Midseason.

**Dwarf Royal Scot**—Red flowers. Gold stripes. Pkt. 15c.

**Dwarf Single**—Masses of eight-petaled single flowers, 1½ inches across.

**Flash**—Gives a profusion of lovely single blooms, 1¾ in. across. Varying yellow to red. "A-A" 1945. Pkt. 15c.

**Guinea Gold**—Magnificent golden flowers with carnation-like petals.

**Harmony Type, French Dwarf Double Hybrids**—Flowers 1¾-in., all double. No strong odor. Combinations of yellow, orange, maroon. Earliest of all. Pkt. 15c.

**Mammoth Mum**—Soft yellow, Chrysanthemum-like blooms about 4 in. wide which will grace the garden from Aug. until frost. "A-A" Hon. Mention 1944. Pkt. 15c.

**Naughty Marietta**—Single, delightful golden-yellow flowers blotched with maroon. 2½ in. across. Pkt. 15c.

**Harmony Type, French Tall Single, Ferdinand**—Brown rays and golden tufts. Pkt. 15c.

**Spry**—1941 "A-A." Extra dwarf double French type; 1½-in. Clear yellow crested center, mahogany-red guard petals. Blooms in 9 weeks. Pkt. 15c.



ODETIA

RUDBECKIA

STATICE

# HOW? WHEN? WHERE? WHY?

## EASIEST ANNUALS TO GROW

We are often asked to recommend annuals for growing without much care, particularly around summer cottages used only on week ends, or where the soil is poor. We suggest *Calliopsis*, *Gaillardia*, *Marigold*, *Petunia*, annual *Phlox*, *Scabiosa*, *Verbena* and *Zinnia*. These usually bloom profusely without care or extra watering, though some water applied when seed is sown will often insure germination.

## ANNUALS FOR FALL BLOOM

By midsummer, many spring-sown annuals have seen their best days. While *Petunias* can be cut back to force new bloom, others can be replaced by sowing new seed late in June among the old plants. Try *Calendula*, *Candytuft*, *Celosia*, *Eschscholtzia*, annual *Phlox*, *Sweet Alyssum*, and small flowered *Zinnias* for this purpose. These late-sown annuals will need extra watering to germinate and grow. The *Alyssum* and *Candytuft* often survive early frost and keep flowering along with the hardy Mums.

## ANNUALS FOR EDGING

Low growing annuals planted at the edge of a garden make it look neat and finished. The best plants for this purpose are *Sweet Alyssum*, *Ageratum*, dwarf *Marigold*, dwarf *Petunias*, and *Zinnia linearis* or *mexicana*. Edging annuals should be pinched back once to keep them especially low.

## ANNUALS FOR FRAGRANCE

We are often asked, "What annuals are really fragrant?" We recommend *Alyssum*, *Candytuft*, *Carnation*, *Mignonette*, *Gleam Nasturtiums*, *Nicotiana*, *Petunia*, *Scabiosa*, *Stocks*, *Sweet Peas* and *Wallflower*.

## Flowers for shady locations

Most annuals need plenty of sunlight, but there are a few which do fairly well in the shade, or with partial sun. The following are worth a trial in shady spots:

## Do Annuals and Perennials Need Lime?

Yes, flowers need calcium, which limes supplies. However, it is possible to get too much lime. Soils that have a pH of much over 7.2 may need something to make them more acid. While the term pH seems mysterious, actually it is nothing more or less than a measuring scale, just as a thermometer is a scale for measuring temperature. From 0.0 to 6.9 is acid or "sour," while 7.0 and above is alkaline or "sweet." All the gar-

*Cornflower*  
*Nasturtium*  
*Pansy*  
*Nicotiana*  
*Vinca*  
*Coreopsis*  
*Cleome*

*Candytuft*  
*Larkspur*  
*Lupine*  
*Gobelia*  
*Lobelia*  
*Bleeding Heart*

In the vine group, those which often prosper in fairly shady places are *Cardinal Climber*, *Cup-and-Saucer Vine*, and *Morning Glory*.

## Flowers for hot, dry locations

In spots where the sun beats down mercilessly all day long, many flowers can not prosper. But some of the annuals can do well, even in these difficult locations. Here's a good list:

<i>Sweet Alyssum</i>	<i>Petunia</i>
<i>Ageratum</i>	<i>Phlox. Annual</i>
<i>Swan River Daisy</i>	<i>Poppy, California</i>
<i>Bachelor Button</i>	<i>Portulaca</i>
<i>Cosmos</i>	<i>Scabiosa</i>
<i>Dianthus</i>	<i>Zinnia</i>
<i>Dimorphotheca</i>	<i>Four O'Clock</i>
<i>Gaillardia</i>	<i>Salvia</i>
<i>Marigold</i>	

**Perennials** for hot locations are less plentiful, but you can usually do well with *Babysbreath*, *Perennial Asters*, *Sedum Acre*, *Statice*, and *Blanket Flower* (*Gaillardia*).

## Flowers for poor soil

Of course, the right answer to poor soil conditions is "Improve the soil!" But if you can't or don't want to do this, you can usually get fairly good results in poor soil with these:

<i>Amaranthus</i>	<i>Marigold</i>
<i>Balsam</i>	<i>Nasturtium</i>
<i>California Poppy</i>	<i>Petunia</i>
<i>Calliopsis</i>	<i>Portulaca</i>
<i>Gaillardia</i>	<i>Sweet Susan</i>

## For successive sowings

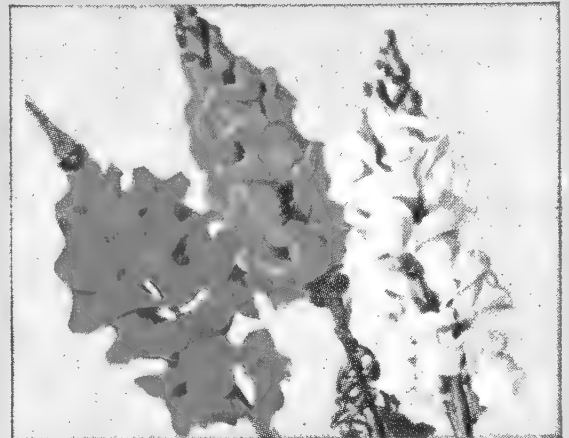
Some of the annuals which come into bloom quickly keep blooming for only a little while. If you want them in bloom through the season, make several successive sowings at two to four week intervals. Flowers in this class include:

<i>Calliopsis</i>	<i>Larkspur</i>
<i>Candytuft</i>	<i>Love-in-a-mist</i>
<i>Cornflower</i>	<i>Mignonette</i>
<i>Forget-me-not</i>	<i>Poppy</i>
<i>Gypsophila</i>	

dener needs to know about pH is that if he will keep his soil between 6.0 and 6.9, the plant food elements in his soil will be most readily available. Above that, iron, sulfur and other elements lock up and are not available. Below that, other elements, principally calcium, cannot be used by plants. A simple \$1.00 soil test kit will give you a pH reading of your soil and tell you what to do to correct it.



ASTER, Wilt-resistant



ANTIRRHINUM, Semi-tall



AQUILEGIA, Long-spurred



CHRYSANTHEMUM, Painted Daisy

DIANTHUS, Lacy Single



**Sunkist**—1943 "A-A." Dwarf, compact, very early. Continuous blooming. Mound-shaped plants. Flowers 1½-in. across. Pkt. 25c.

**Yellow Supreme**—Sweet-scented, 3-in. blossoms.

**Yellowstone, Mission Giant**—"A-A" 1942. Late. Pkt. 20c.

**MIGNONETTE, Sweet Scented (a)**—Culture I. Cover 1/16-in. Dwarf, fragrant, long blooming.

**MOON FLOWER (a)**—Culture VII. Cover seeds ¼-in. Plant in a sunny location. Quick-growing vine with pure white flowers, 5 to 6-in. across, that open in evening and on cloudy days. Fragrant.

**MORNING GLORY (a) (Impomoea)**—Culture III. Cover ¼-in. Heavenly blue. Quick growing. Extremely large blue flowers. Long blooming. Pkt. 15c.

**Scarlett O'Hara**—"A-A" 1939. Rich wine-red or deep crimson blossoms about 4-in. Pkt. 15c.

**Pearly Gates**—1942 "A-A." Unusually large white flowers, luxurious foliage. Plant with Heavenly Blue and Scarlett O'Hara for red, white and blue effect. Pkt. 15c.

**Tall Mixed**—Large-flowered strain. Many colors.

**MOSS ROSE**—See Portulaca.

**MOURNING BRIDE**—See Scabiosa.

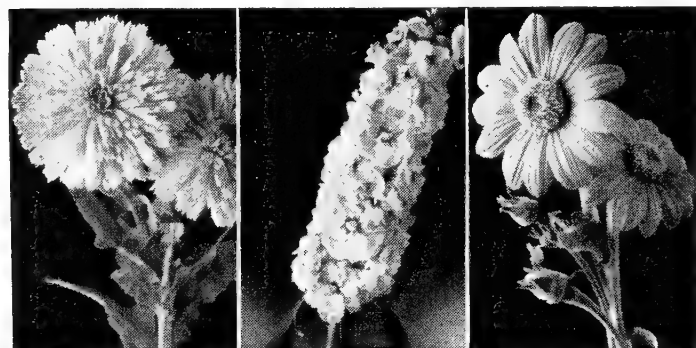
**NASTURTIUM (a)**—Culture III. Cover ½-in. Prefers sunny location. Thrives in poor soil.

**Dbl. Glorious Gleam Hybrids**—Sweet scented. Long stems. Compact habit. Many colors.

**Golden Gleam**—Double and semi-double fragrant gold blossoms, semi-tall plants.

**Golden Globe (Dwarf Dbl.)**—Color like Golden Gleam.

**Scarlet Gleam**—Fiery red.



CALENDULA  
Shaggy

STOCKS  
Double Giant

TITHONIA  
Fireball

**Single Tall or Climbing**—Good for covering fences or trailing over rockwork. Wide color range.

**NEMOPHILA (Baby Blue Eyes) (a)**—Culture II. Dwarf, spreading plants; sky blue flowers.

**NICOTIANA (a) ●**—Culture I. Cover 1/16-in. Long tubed, petunia-like blossoms pour rich, spicy fragrance over the garden morning and evening.

**PAINTED TONGUE**—See Salpiglossis.

**PANSY (a) ●**—Culture VI. Cover ⅛-in.

**Swiss Giants**—Long-stemmed. Fine for cutting. Pkt. 50c.

**PETUNIA (a)**—Culture I. Cover 1/16-in. Blooms summer and fall.

**All Double, America**—First American all-double, carnation-flowered petunia. Lovely mauve-pink, 2 in. blooms on dwarf plants. "A-A" 1946 Silver Medal. Pkt. 15c.

**Burgundy**—A rich wine red with contrasting white throat. Single plain edged.

**Cheerful**—Gay salmon-pink single blooms veined with rose towards their throats. Compact, dwarf plants a mass of flowers. "A-A" 1944 Bronze Medal. Pkt. 15c.

**Dainty Lady**—"A-A" 1936. Large, single fringed, yellow, ringed gold and cream; compact plants. Pkt. 35c.

**Flaming Velvet**—Dark red, single, plain edged. Pkt. 15c.

**Fluffy Ruffles**—A delightful mixture of delicate light shades. Finely fringed and very heavily ruffled so that they appear double.

**Giants of California, Mixed**—A well balanced mixture of large fringed and ruffled flowers of light and dark shades. Suitable for window box or potting.

**Glamour**—1942 "A-A." Huge 5-6-in. blooms; appear when plant only 5 to 6-in. tall. First appear double, then petals fall back, exposing throat. Pkt. 25c.

**Glow**—Sparkling, carmine-red flowers growing in profusion on bushy plants. "A-A" Silver Medal. Pkt. 15c.

**Rose of Heaven**—Rose, with inconspicuous light throat. Single flowers. Dwarf plants.

Ht.

10"

15"

**All Flower Seeds 10¢ PER PACKET**  
except where otherwise noted

**Rose Marie**—Large, double flowers of rose-pink. Dwarf, free blooming plants. "A-A" Bronze Medal. Pkt. 15c.

**Rosy Morn**—Medium sized rose-pink flowers, white throat. Pkt. 15c.

**Single Fringed, Mixed**—Excellent mixture of rich bright colors. Medium size and erect growing.

**Single, Plain Edged, Mixed**—Special mixture, light and dark shades.

**Single, Plain Edged, White**—Pure white dwarf.

**Theodosia**—Flowers 3 to 3½-in., rose with gold throat; single fringed. Flowers when plant very small. Pkt. 25c.

**PHLOX (a) ●**—Culture II. Cover ⅛-in. Prefers sun. Thrives in almost any soil.

**Art Shades**—A wonderful range of soft shades. Light and deep salmon with cream eye, pale violet and soft rose with white eye. A beautiful assortment.

**Rosy Morn**—A bright color combination of deep rose pink with a white eye. A free bloomer.

**Salmon Glory**—A deep salmon with cream eye.

**POPPY (a)**—ANNUALS: Cover ⅛-in. Grow freely in almost any soil. Prefer sun.

**California**—See Eschscholtzia.

**Iceland Mixed (hp)**—Culture VII. Blooms first year. Excellent color balance. Immense blooms and very long stems. Pkt. 15c.

**Shirley Mixed**—Ruffled edges, large blooms.

**PORTULACA (Moss Rose) (a)**—Culture III. Cover ⅛-in. Thrive in sunny location and light soil. Fine for mass planting, edgings.

**Double Mixed**—Pkt. 15c.

**Single Mixed**—

**POT MARIGOLD**—See Calendula.

**RICINUS**—See Castor Bean.

**RUDBECKIA (Coneflower) (a)**—Cheerful colored blooms with Daisy-like petals. Grow rapidly from seed during the Summer and Fall and become 1½ to 3 feet tall. Good for cutting.

**SALPIGLOSSIS (Painted Tongue) (a)**—Culture II. Cover 1/16-in. Blooms midsummer to frost. Large lily-like, velvety flowers, many bright colors.

**SALVIA (Flowering Sage) (hp)**—Lavender-blue flowers. Blooms first year and last until frost. Pkt. 15c.

**Red**—The popular Salvia color.

**SATIN FLOWERS**—See Godetia.

**SCABIOSA (a) (Mourning Bride)**—Culture II. Cover ⅛-in. Early summer to frost.

**Blue Moon, Imperial Giants**—Double flowers, resembling old-fashioned bee-hives. Lavender blue. "A-A" 1939. Pkt. 25c.

**Rosette**—Very large; rose, flushed with salmon. Pkt. 15c.

**Mixed**—

**SCARLET FLAX**—See Linum.

**SCHIZANTHUS (Butterfly-flower or Poor-Man's Orchid) (a)**—Culture II. Cover ⅛-in. Flowers like tiny butterflies, pastel shades, finely lacinated foliage.

**SHASTA DAISY, Alaska (hp)**—Culture VI. Cover ⅛-in. White single blossoms, 4 to 5-in. across, with small yellow centers, long stems.

**SNAPDRAGON**—See Antirrhinum.

**SNOW-ON-THE-MOUNTAIN (Euphorbia) (a)**—Culture IV. Cover ⅛-in. Foliage edged with white.



COREOPSIS  
Sunburst

ESCHSCHOLTZIA  
Single

SCABIOSA  
Blue Moon

18-24"



# HOW TO GROW all flowers listed in this catalog

FOLLOWING ARE THE CULTURAL DIRECTIONS INDICATED  
BY THE KEY NUMBER, WHICH APPEARS FOR EACH FLOWER

## CULTURE I

Seeds give best returns if sown in flats in early spring, but good results may be obtained by sowing outdoors after all danger of frost is past. Sow seed at depth indicated under flower descriptions. Water thoroughly with fine spray and place in warm room; watch flats carefully and never let soil become dry. When seedlings appear, remove flats to sunny window. Transplant to other flats as soon as they are large enough to handle, keeping them 2" to 2½" apart both ways. Expose gradually to outside conditions and, when sufficient growth has been made, plant in permanent outside locations. For sowing outdoors, follow instructions given in Culture II.

## CULTURE II

May be sown in outside seed-beds and later transplanted, or directly into their permanent location. Spade seed-bed deeply, mix well-rotted manure, or peat moss or humus and a commercial fertilizer, well into the soil; spread an additional half inch of peat moss or humus on seed-bed, and rake well into top surface. Sow seeds at depth indicated, and water thoroughly with a fine spray. When large enough, transplant or thin out. If exceptionally early flowering is desired, follow instructions under Culture I.

## CULTURE III

Seeds do not take kindly to transplanting and should be sown outdoors, as soon as danger of frost is over, in beds they are to occupy. Prepare seed-bed

same as Culture II. Level off and sow seeds thinly at depth indicated; water thoroughly with a fine spray. After seedlings appear, thin out.

## CULTURE IV

Seeds under this culture, being quite hardy, may be sown outside in very early spring, as frosts do not affect their growth to any extent. The seed-bed should be spaded deeply, and fertilizer mixed thoroughly with the sub-soil. Plant at depth indicated, and water thoroughly with a fine spray. When large enough to handle thin out and transplant. For very early plants, sow in fall, leaving plants to winter in their beds.

## CULTURE V

Sow in flats in early spring if for the garden; or during the summer if you wish to cultivate them in pots for house decoration. Sow seeds to depth indicated, and water thoroughly with a fine spray. Place in a warm room. As soon as seedlings appear, remove to a sunny window. When large enough to handle, transplant into other flats to stand 2" apart in rows. Transplant outdoors when all danger of frost is past. If for house decoration place in larger pots.

## CULTURE VI

May be sown in early summer in flats or coldframes at the depth indicated. Water thoroughly with a fine spray. Place in a warm room and as soon as seedlings appear, remove to a sunny window. When large enough to handle, transplant into other flats, spacing seed-

lings 2" to 2½" either way. Later, when they begin to crowd, transplant them a second time. In fall, if well developed, they may be placed in their permanent locations where they are to blossom the following year, or left in the seed-beds for early spring transplanting. **Note:** Only a few varieties under this culture will produce flowers the first year, and all will benefit by winter mulch or protection at least the first season. Seed may be sown in the open, after danger of frost is past, in a seed-bed in which the top soil is finely pulverized and mixed with peat moss or humus. Raise seed-bed several inches above the rest of the garden to prevent seeds being washed out. When plants are sufficiently large, place them in their permanent locations.

## CULTURE VII

Best sown indoors in early spring directly into small pots. Fill the pots with a mixture of good garden soil, composed of two parts soil and one part humus, to within a half inch of the edge of the pot. Firm the soil and place one or two seeds at the depth indicated. Take an ordinary seed-flat, fill with moist peat moss, and plunge the pots into this up to within a half inch of the edge. Water pots thoroughly. Place in a warm room and as soon as seedlings appear, remove to a sunny window, gradually exposing them to outside conditions. When all danger of frost is over remove from pots without destroying the root-ball and plant in their respective places outdoors. If advanced blooming is not desired, seeds may be sown outside as soon as warm weather sets in.

**STATICE (Sea Lavender) (a)**—Culture I. Cover ⅛-in. Seed germinates very slowly. Masses of dainty flowers in large panicles, giving a mist-like effect. When dried, flowers last for months.

**STRAWFLOWER**—See Everlasting.

**STOCKS (a)**—Culture I. Cover ⅛-in. Bloom all summer. Like rich soil, moisture, shade in hot months. **Giant Imperial**—Large flowers, long stems. Very early; many doubles. Pkt. 25c.

**Ten Week Stocks**—Double, rosette-like, fine stems.

**Beauty Mixed**—

**SUNFLOWER**—See Helianthus.

**SWEET PEAS (a)**—Sow very early. Dig trench 1-ft. wide and deep. Place 6-in. rotted manure or peat moss mixed with manure, on bottom, tread down firmly. Fill with good garden soil. Sow one row of Sweet Peas ¾-in. apart. When plants are 3 to 4-in. high, thin to 6-in. apart and provide supports. Need plenty of water; and mulch of peat moss when warm weather approaches. Pick flowers daily.

**Early Flowering Spencer**—Individual colors and mixed. Can be grown either inside or out of doors.

**Late or Summer Flowering Spencer**—Individual colors, mixed. Extremely hardy, productive, and more heat resistant than other varieties.

**Ruffled Spencer**—Individual colors, mixed. Contains many varieties in a perfect blend of color.

**TICKSEED**—See Calliopsis.

**TITHONIA, Fireball (a)**—Culture I. Cover ⅛-in. Blooms in late summer. Dazzling scarlet, large single flowers. Plant very tall.

**TRITOMA (Red Hot Poker) (hp)**—Striking red spires of bloom from August on. Continuous blooming.

**VERBENA (a)**—Culture I. Cover seeds ⅛-in. Dwarf plants with very large heads.

**Mammoth White**—

**Scarlet**—

**Shades of Blue**—

**Mixed**—

Ht.

18"

24"

72-96"

36"

18"

**WILD FLOWER MIXTURE**—Splendid mixture of old-fashioned garden flowers, various kinds and colors, for interesting border planting.

**ZINNIA (a)**—Culture III. Cover ⅛-in.

**Black Ruby**—1941 "A.A." Deep velvety maroon. Lilliput or Pompon zinnia, 1¼-in. flowers, long stems. Effective used with lighter colors. Pkt. 15c.

**Crown of Gold**—Giant flowers, petals deep golden yellow at base, with individual colors at tip. Pkt. 15c.

**Dahlia Flowered**—6-in. blooms. Most satisfactory Zinnia. Yellow, red, pink, orange. Pkt. 15c.

**Fantasy**—Great masses of shaggy twisted petals. **Melody** (orchid-lavender), pkt. 15c; **Star Dust** (clear golden yellow), pkt. 15c; **Wildfire** (rich scarlet), pkt. 20c; **White Light** (pure white), pkt. 15c; **Mixed**, pkt. 10c.

**Giants of California**—Huge blossoms. Colors. Mixed.

**Harmony Type, Mixed**—Bearing numerous medium sized flowers. Fine mixture contains bright shades such as crimson, orange, yellow, pink and white.

**Lilliput**—Straight-stemmed midget pompons. Red, yellow, pink, white, orange and mixed.

**Lilliput Pastel Mixture**—Pompons 1 to 1½-in. Variegated pastel colors.

**Linearis**—Single. Golden-orange, lemon yellow stripe, brown centers. Dwarf plants. Pkt. 15c.

**Mexicana**—Miniature yellow, orange and mahogany flowers, frequently variegated. Single and double.

**Navajo Mixed**—Bi-colored. Medium sized flowers. "A.A." 1938. Pkt. 15c.

**Pumila Sunshine Tints**—Symmetrical 2½ to 3-in. flowers, in luscious autumn tints and pastel shades. Very free flowering. Long stems, fine for cutting. Pkt. 15c.

**Scabious Flowered**—Large semi-globular crown, surrounded by fringe of petals. Pkt. 15c.

**Super Crown-O'Gold, Pastel Tints**—Flowers 5 to 5½-in. Wide range of pastel shades. Pkt. 25c.

**Will Rogers**—A striking new red. Very robust plants, literally loaded with blooms 6 inches across, and often 4 inches in depth, resembling the Show Dahlia.

Ht.

18"

24"

30-36"

12-18"

12"

12"

30-36"

30-36"

# Flower Garden PLANTING GUIDE

KEY—For classification of flowers by purpose, location, etc., see the second column below. The meaning of the key letters in this column is as follows:

A—For dry, hot locations  
B—For a succession of blooms  
C—For shady locations  
D—For poor soil  
E—For edging  
F—For the rock garden.

G—For their foliage  
H—Everlasting for winter bouquets  
I—For their fragrance  
J—For porch or window boxes  
K—Climbing Vines  
L—For backgrounds

	Height (Inches)	Suitable for	Average Days to Germinate	Approx. Time of Bloom	Shape of Plant
Ageratum	4-12	E F J	5-10	10 Wks.	bushy
Alyssum, Sweet	2-12	B C D E F I J	5-10	6 Wks.	spreading
Antirrhinum	12-60	C I L	20-25	3-4 Mos.	bushy
Aquilegia	18-36	C E F	15	3 Mos.	branchy
Balsam	14-20	A E	10-12	6 Mos.	erect
Calendula	12-36	D	10-14	12-14 Wks.	bushy
Campanula	18-24	F	8-15	10-12 Wks.	bushy
Candytuft	6-18	B F I	5-10	8-10 Wks.	bushy
Centaurea	18-36	A B C D E I J	5-20	3-4 Mos.	erect
Chrysanthemum	24-36	A E	5-20	8-10 Wks.	bushy
Celosia	12-36	D E H	20-25	10 Wks.	bushy
Cosmos	36-60	A	5-15	10-12 Wks.	bushy
Coreopsis	18-36	A B D	10-20	4-5 Mos.	bushy
Dahlia, Dwarf	14	F	10	3-4 Mos.	bushy
Delphinium	36-72	L	15-21	3-4 Mos.	tall
Digitalis	30-48	F	10-20	3-4 Mos.	erect
Dianthus	4-15	F I	5-10	12 Wks.	bushy
Eschscholtzia	10-12	C D F	5-12	12-15 Wks.	bushy

Four O'Clock	24-30
Gaillardia	18-30
Godetia	12-24
Gypsophila	18-36
Helichrysum	24-36
Hollyhock	48-84
Kochia	30-36
Larkspur, Annual	30-72
Lathyrus	60-72
Lobelia	4-8
Marigold	8-36
Mignonette	10-12
Moon Flower	12 ft. or more
Morning Glory	12 ft. or more
Nasturtium	12-36
Nigella	10-18
Nicotiana	30-48
Pansy	4-8
Petunia	10-24
Phlox	10-18
Poppy	18-36
Portulaca	4-6
Salvia	12-42
Scabiosa	18-30
Stocks	12-24
Schizanthus	18-36
Sweet Pea	36 or more
Sweet William	12-24
Verbena	6-12
Wallflower	12-18
Zinnia	12-36

A D	5-10	3-4 Mos.	bushy
D	15-20	2-3 Mos.	bushy
C D	15-20	2 Mos.	erect
B H	15-20	8-10 Wks.	branching
H	5-10	3 Mos.	bushy
L	5-20	10 Wks.	slender
A B	15-18	Foliage	bushy
L	15-20	10-12 Wks.	tall
I K	25-40	2-3 Mos.	vine
E J	10	10-12 Wks.	bushy
B J	5-8	6-8 Wks.	bushy
B I		3-4 Mos.	erect
I K	5-8	4-5 Mos.	vine
A K	5-8	3-4 Mos.	vine
D E F K	8-15	2-3 Mos.	bush. vine
B F	10-15	10-12 Wks.	bushy
I	20-25	10-12 Wks.	branchy
C E F	10-15	10-12 Wks.	clump
D E F J	18-20	10-12 Wks.	bushy
A B C F I J	20-25	8-10 Wks.	bushy
B	20	12-15 Wks.	erect
A D E F J	18-20	6 Wks.	spready
A	15-25	3-4 Mos.	bushy
I	18-20	2-3 Mos.	bushy
I		5-15	12-14 Wks.
C E	20-25	6-8 Wks.	bushy
K	15-20	10-12 Wks.	vine
F	10	12 Wks.	bushy
E F J	8-10	12 Wks.	spready
I	5-12	2-3 Mos.	bushy
A F	5-10	6-8 Wks.	bushy



PETUNIA, All Double

*In your flower garden the world is always at peace. No matter how troubled the days, flowers are happy companions to which you may always turn for friendship and true contentment.*

*So this year, of all years, make your garden the garden of your dreams.*



LARKSPUR, Ruby



MARIGOLD, Sunkist



COSMOS, Dazzler



PETUNIA, Glow

# NEW HELP for your battle with the BUGS

Ever since the first garden was planted, the fight between gardeners and insects has gone merrily along.

But nowadays that fight is growing easier, year by year. Just reasonably good strategy is all the gardener needs to win.

## A New Weapon

To make the job even easier, we present here a highly valuable new anti-bug weapon. This is our series of *natural color portraits* of the common garden enemies (at the right).

For the first time in any seed catalog, these pests are fully pictured in their exact coloring, so that you can recognize them at a glance.

## To Beat Them, KNOW THEM!

These unique pictures have just one purpose—to help you identify the pests in your own garden.

Once you know exactly which insect you are fighting, the job is easy. There's a proper insecticide for every one of them.

That's where our new color pictures are so extremely useful. When you have these life-like portraits before you, identification is easier and more certain than ever!

## Ask Us for the Remedy!

To link up each bug with the insecticide that will handle him, JUST ASK US. We know, from long experience, which formula is best for each situation—and we have it on hand, ready for you.

So—with this new weapon at hand, let's work together. You identify 'em! We'll prescribe for 'em! And from then on, Mr. Bug will have a pretty bad time of it.

# For insecticides SEE THE SEEDSMAN!

You can buy insecticides in many types of stores.

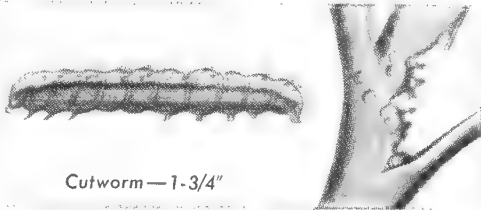
But there's only one type of store where the necessary *KNOW-HOW* goes along with the merchandise.

A good seedsman isn't only a merchant. He's a garden doctor, always on the job to help you make your home more beautiful, more fruitful. He KNOWS!

Therefore, plain common sense says, "FOR INSECTICIDES SEE THE SEEDSMAN!"

# May we introduce...YOUR ENEMIES!

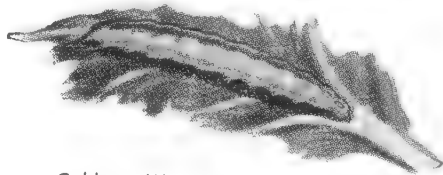
We are proud to present—for the first time in any seed catalog—a series of true natural color portraits of common garden insects. USE THESE PICTURES to identify pests in your garden. Report them to us by name. We'll prescribe the right insecticides!



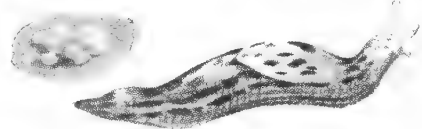
Cutworm—1-3/4"



Tomato Hornworm—3" to 4"



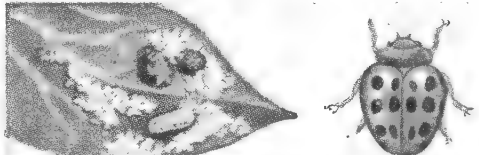
Cabbage Worm—1"



Giant Slug—4" or more



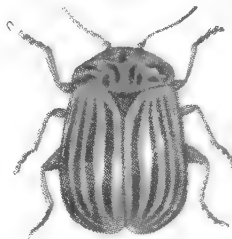
Japanese Beetle—1/2"



Mexican Bean Beetle—5/16"



Asparagus Beetle—7/32"



Potato Beetle—3/8"



Potato Flea Beetle—1/16"



Bean Weevil—1/8"



Chinch Bug—3/16"



Tarnished Plant Bug—1/4"



Red Spider Mite—1/60"



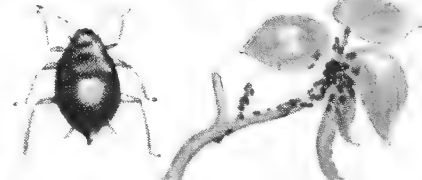
Rose Chafer—3/8"



Beet Leafhopper—1/8"



Melon Aphid—3/32"



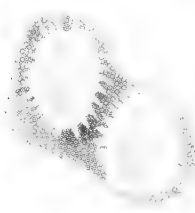
Bean Aphid—3/32"



Squash Bug—5/8"



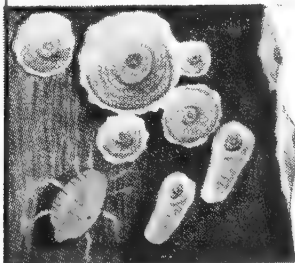
Sow Bug—1/2"



Mealy Bug—3/16"



Gladiolus Thrip—1/16"



San Jose Scale

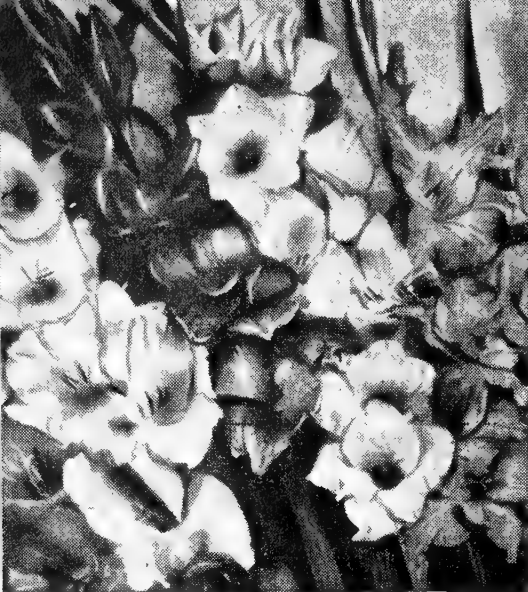


Corn Earworm—2"



Oyster-shell Scale





## GLADIOLUS

**Bagdad**—Smoky old rose, lighter throat. Very large. 6 to 8 florets on tall, straight spike. Late.

**Barcarolle**—Notable for the clearness of its clean, gleaming orange. Florets are large and decidedly ruffled. Spikes long and strong.

**Beacon**—Brilliant, clear, dark rose, with a pronounced blotch. Florets slightly waved and ruffled. One of the best.

**Betty Nuthall**—Coral-pink, yellow throat markings. Florets of fine texture, large, strong spikes.

**Bit o' Heaven**—Medium-sized florets of orange with a yellow throat. Tall and straight with 9 to 12 flowers.

**Blue Beauty**—Exceptionally lovely variety. Medium blue florets, shading to darker blue or violet at edges. Large blooms on tall, strong stems.

**Commander Koehl**—Fine red. Tall spike. Florets very large, dark scarlet without markings.

**Dr. F. E. Bennett**—Fiery orange-scarlet. Very large flowering.

**Debonair**—LaFrance pink, shading into shrimp pink, creamy throat blotch. 6-8 medium size blooms.

**Golden Dream**—Clear, golden-yellow flowers, medium size, tall stems, many open at a time. Late.

**King Lear**—Unusual! Deep reddish purple petals edged with silver. Very large, heavily ruffled flowers.

**Margaret Beaton**—One of the finest of recent introductions. Large, snow white blooms, relieved by a tiny scarlet-orange spot at the center of the throat.

**Minuet**—Beautiful, clear light lavender. Considered the best lavender. Very large flower of heavy substance.

**Maid of Orleans**—Milky white, with light cream throat. Tall spike, 6-8 perfectly placed florets.

**Picardy**—Rich apricot-pink. Florets extremely large, slightly ruffled and of wax-like appearance.

**Pelegina**—Dark blue, 6 or more well placed blooms open with most of remaining buds showing color. Early. Best dark blue.

## BULBS and TUBERS for Spring Planting

**Red Phipps**—Unusual shade of light red. Medium tall, long flower heads. Late mid-season.

**Rosa van Lima**—Pure self-colored light pink with many flowers open at one time. Strong, straight stem.

**Shirley Temple**—Newly developed prize winner. Enormous creamy white flower with deeper cream blotch on lower petals. Tall and lovely.

**Vagabond Prince**—Iridescent mahogany brown, lighter in throat. Small scarlet blotch on lip. 8-10 medium size blooms open at a time.

## DAHLIAS

**Avalon**—Fine form, bright golden-yellow. Blooms freely.

**Jersey Beauty**—Supreme among pink Dahlias.

**Jane Cowl**—Deep, massive blooms, buff and old gold petals curled and twisted.

**Mrs. I. De Ver Warner**—Large blooms, old rose suffused lilac.

**Jersey Beacon**—Chinese scarlet, lighter reverse. Long stems.

**Thomas A. Edison**—Gorgeous blooms of rich royal purple.

**Kentucky**—Salmon-pink with yellow and gold blend.

**Monmouth Champion**—Huge brilliant orange flowers, perfect stems.

**White King**—Magnificent large blooms, pure snow-white.

**Pompon Dahlias**—Charming "button" dahlias that require little care but reward you with gorgeous cut-flowers summer and fall. In mauve, pinks, red, white, bronze, yellow.

## CALADIUM

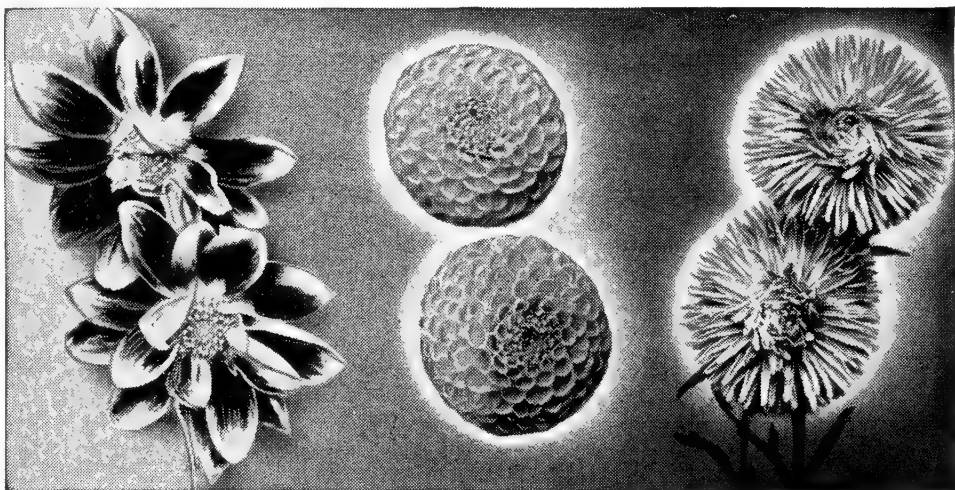
**Fancy-leaved Caladium**—Few summer foliage plants can equal it for rich, beautiful color and dramatic effect.

**Elephant's Ear**—One of the largest ornamental plants for beds and borders. Huge green leaves give unusual effect.

## TUBEROSES

One of the most fragrant of all flowers. Tall spikes of double waxy blooms borne on tall stems. Spear-shaped, grass-like foliage. Annual replacement frequently advisable.

**Bulbs and Tubers are  
A GOOD INVESTMENT!**



## CANNAS

**King Humbert**—Gigantic flowers, orange-scarlet, with bright red markings. Bronze leaved. 5 feet.

**Yellow King Humbert**—Golden-yellow, dotted red. Green foliage. 4 feet.

**President**—The best red Canna. Immense flowers of rich scarlet. Green foliage. 4 feet.

**Hungaria**—The best true pink Canna. Large flower trusses; green foliage. 3½ feet.

**Wintzer's Colossal**—Largest flowering. Vivid, blazing scarlet. Green foliage. 5 feet.



## Know Your Dahlias!



Cactus



Single



Pompon



Formal Decorative



Informal Decorative



Collarette



Anemone Flowered



Peony Flowered

Any reasonably careful gardener can grow dahlias easily and successfully—and enjoy one of the greatest pleasures that flower gardening affords. Dahlia types and forms cover a vast range.

**Soil needs** of dahlias are no different than those of a good vegetable garden.

**Fertilizing** calls for nothing more than a good balanced commercial fertilizer.

**Locate** where they will get at least 6 to 7 hours of sun, with free air circulation.

**Culture.** Cultivate frequently for about

the first 10 weeks. Do not cultivate when flowers are in bud or bloom.

Allow only one main stalk to grow. When stalk is about 10 inches high, pinch out the center just above the 2nd pair of leaves. When buds appear, pinch out all except the central one. Also pinch out all new lateral shoots except the two nearest the main stalk. This helps produce large blooms on low, bushy plants.

Pick blooms well after sun down to prevent wilting.

## HOW? WHEN? WHERE? WHY?

### For better bloom from bulbs

**GLADIOLUS:** Perhaps the most useful of all summer-flowering bulbs. Excellent to fill in places where perennials have died, or where annuals have failed. When used in this way, need no care other than that given the other garden flowers. Do not use extra fertilizer; too much food promotes production of bulbils or offsets at the expense of good bloom and of a sound center bulb.

Gladiolus bulbs can be planted at any time from earliest spring until July first (if sound bulbs are on hand that late). Before planting, treat bulbs for thrips (ask for information). In light soil, plant 5" to 6" deep. This will help support the flower spike which might otherwise fall over. In heavy soil, 4" deep is correct. If planted too shallow, more bulbils will be produced, but not as good flowers. Space 6" apart in rows 24" apart, though for smaller, older sorts, 4" may be enough room to allow.

Regular spraying to control thrips is essential wherever this insect pest has been seen. If your flowers fail to develop properly last year, and if the leaves had greyish tan patches on them, this means you had thrips, and will have them again unless you treat. D.D.T. has proved a perfect control for this pest.

**DAHLIAS:** Perhaps our most spectacular fall flower, the Dahlia should not be planted too early, as the flowers will not do well in warm weather. Do not, however, keep tubers later than June 1st, since by that time they usually start shriveling and may be injured if kept later. Dahlias need plenty of potash and phosphorus. If you apply the 25 to 30 lbs. of mixed fertilizers recommended for general use before planting, then additional feeding of potash and phosphorus will still be needed to produce firm tubers that will keep over winter, healthier plants and better bloom.

Leaf hoppers which carry disease and which also injure the plant by sucking juice from the leaves and stems are easily controlled by regular dusting or spraying with D.D.T. Mulching with straw, excelsior or some other airy, light material will help keep the soil moist and cool. Don't use leaves or grass clippings that mat down and pack—they hold in too much moisture.

**FANCY LEAVED CALADIUMS:** These spectacular foliage plants are particularly valuable because they do well in shade. Start them in a mixture of half sand and half leaf mould at a temperature of over 70°. When the roots are well-developed and the shoot is beginning to show, pot up in rich

soil. Set out in the garden when weather is warm and settled. Elephant ears can be planted directly in soil out of doors, but the weather must be warm and settled, otherwise they will rot.

**TUBEROSE:** This warm-weather bulb should be planted in rich soil, with 2" of soil over the tip after the weather is warm and settled. Do not try to save the bulbs: these must be grown by a specialist if they are to bloom well. Buy new bulbs each year.

**CANNAS:** While cannas will tolerate cold soil, they usually do not start growing until hot weather comes. Plant when the apple blossoms appear, in rich soil. If planted in round beds, you will need 37 plants for a 10 foot bed (18 plants on the outside, 12 in the second row, six for the third row and one in the center). A 7 foot bed will use 19 plants, with 12 plants on the outside row, six for the middle row and one plant in the center.

**LILIES:** Even the swamp lilies will not tolerate wet feet; all must have perfect drainage. Yet they like a moist, cool soil. This means that liberal quantities of old well-decayed compost is almost essential for lilies. They will not tolerate lime; your soil should have a pH of 6.5 or below if you want to grow good lilies.

# Time and labor saving in your garden

## How long is a shovel?

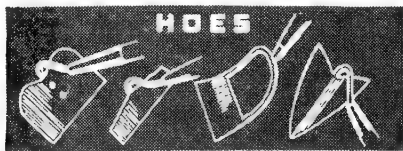
The choice of a digging tool is a matter of personal preference, but those who have not used the long-handled, round pointed shovel should try this tool. Because of its long handle, it gives greater leverage, which means less work for the back and arms of the digger. While it is called a shovel and can be used for shoveling loose soil, it is equally good for spading and turning over the soil. Many professional gardeners use it as a cultivating tool for working under shrubs because they can shove it under like a scuffle hoe and cut off tall weeds that cannot be cut easily with a regular hoe.



For breaking up heavy clay soils, many gardeners like a spading fork. The tines go in easier and the clods tend to break easily when pried out.

## Consider the "onion" hoe

Every gardener needs a good hoe, and preferably two. While the regular field or garden hoe has millions of friends, the square top onion hoe will do more types of work, weighs less and still do everything the field hoe will. This onion hoe has a blade less than two inches high, hence it does not move a mass of soil. Soil flows over it easily, reducing the effort needed to use it. Because of its narrow width, the end can be used to thin plants in the row. The steel scuffle hoe is a tool preferred by professional gardeners for weeding and mulching. With it, they can work backwards, so it is not necessary to walk over the soil already prepared. Because the blade lies flat on the soil and the dirt flows over it, much less force is needed than with even the onion hoe.



## A matter of necessity

For deeper cultivation, the five-pronged garden cultivator with long handle will do practically everything a wheel hoe cultivator will, though not as rapidly. It is the logical tool for the smaller

garden. It should not be used too late in the season, however, after plant roots have begun to spread out between the rows.

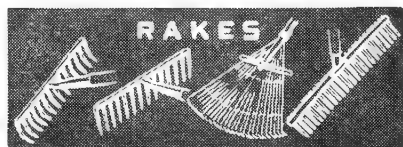


## Two trowels are better than one!

A good trowel is an essential tool. A cheap trowel is money wasted: it will bend and break at just the crucial moment. Buy the best trowel you can afford: it will give you pleasure in use for many many years. If you have only one trowel, it should be the wide type, big enough to dig a good sized hole for a tomato seedling. If much transplanting is to be done, the narrow bladed trowel is useful.

## Flat-head vs. bow end rakes

With end of the war, bow end rakes are coming back. While more costly to make than the flat-head rake, they are so much more efficient that the latter should only be used when low cost is a factor. The bow-end rake has the weight balanced better, so is easier to use. Also, the bow adds flexibility and gives "spring" to the pull of the teeth.



## Planks come in handy!

A garden "tool" not ordinarily thought of is a good solid board or plank. When working on soft soil, a 2" x 12" plank several feet long can be used to stand on, and will avoid compacting the soil. During hot summer weather, when late vegetable seeds are sown, lighter boards are useful to cover the row. These keep in moisture, keep out heat and speed up germination. (Examine the row every day and remove at the first sign of growth.)

## See Our Expert—He Knows!

Space does not permit us to cover all of the tools and equipment, we have, which you will find helpful. Before selecting a garden cart, a wheelbarrow, a sprinkler, spreader or plant setter, etc., consult our experienced gardener. He will advise you on the type best suited to your needs.



# REPORT on the supply situation

To customers who inquire about the garden supply situation for this spring, we can report,

*"Things are looking up, thank you!"*

In many lines of garden equipment, supplies are just about normal. In other lines, there are still shortages, but only a few of them are serious.

You'll still encounter a few disappointments when you do your garden shopping this spring. But they won't be many. And you may be sure we're doing our best to eliminate them.

# "PRICES subject to change"

As is usual in seed catalogs, we must notify you that *prices are subject to change without notice.*

This year, however, we must put special emphasis on this statement. The price situation is uncertain on many items. We shall, of course, make every effort to maintain our listed prices. But we cannot promise to do it completely.

## WHY folks like to buy Garden Supplies HERE

**We don't have any monopoly on the Garden Supplies we sell. Quite a few of them can be bought in many other stores.**

**But good gardeners still prefer to buy here, because this is a real garden store. Here every transaction is a friendly deal between gardeners. Here we try our best to deliver something more than just merchandise.**

**That's because we're SEEDSMEN—and proud of it!**

**FOR GARDEN SUPPLIES,  
SEE THE SEEDSMAN!**



# GARDEN SUPPLIES

## BIRD HOUSES AND FEEDERS

**Bird Houses**—A great deal of pleasure can be derived from the birds that will be attracted to your yard by putting out a bird house or two. We carry many types and styles for bird lovers to choose from. **Window Bird Feeders**—Provides an opportunity to study your bird companions from your window. Ideal for shut-ins and a real form of companionship for any person who is fond of birds.

## WILD BIRD SEED MIXTURE

Feed your feathered friends the year round with this tempting mixture. All types of wild birds relish this seed. Don't forget to give them plenty in the winter months when food is scarce.

## "EROSIONET"

Strong, open-mesh fabric used in making new lawns where protection of young grass is desirable. Will hold soil and prevent washing and loss of turf on steep banks. Also used for supporting sweet pea vines and shading cold-frames or perennial seed beds. 45 inches wide. **15c per linear yd., 100 yd. strips or more, 12½c per linear yd.**

## FLOWER HOLDERS

**Dome Type Nev-r-Tip.** Heavy cast alloy, non-rusting. 1¾ in. diameter, **25c**; 2½ in. diameter, **35c**; 3½ in. diameter, **55c**.

**Pin Type Nev-r-Tip.** Constructed with a heavy cast alloy base supporting needle-pointed, solid brass pins closely arranged. Round, 1½ in. diameter, **25c**; Round, 2¼ in., **40c**; Round, 3½ in., **75c**.

## GARDEN GLOVES

**Garden Gloves**—Protect your hands—wear gloves in your garden! Canvas or leather, in sizes for men and women.

**EEZY WEAR GLOVES**—So easy to wear, yet give you All-Leather **DIRTPROOF** protection. Durable, economical, washable. Sizes: Ladies' small, med., large; Men's small, med., large. **\$1.00**.

## HOTKAPS

Patented paper hothouses to be used over seeds or plants. Protects from frosts, storms and insects. Ripens crops earlier, increases yield. Easy to set. 25 for **50c**; 100 for **\$1.95**; 250 for **\$3.50**.

## GARDEN HOSE

**VISIT OUR STORE** for our newest offerings. Garden hose is now available in good quality and quantity.

**Ask about new, improved hose reels, too.**



## DOES YOUR DOG ITCH? SCRATCH?

Don't Blame Fleas, Mange or Diet... 2 to 1 It's "Fungitch"  
**Amazing New Sulfodene Eliminates Canine Skin Infection Long a Puzzle to Science**

**IF YOUR dog or cat scratches, it probably has "FUNGITCH"...** a fungus infection caused by contact with mouldy grass and weeds. "FUNGITCH" starts as an itch... then leads to dandruff-like scales or sores with brownish edges, mouldy odor—or infection in ears, on paws, underbody, tail or eyes... resulting in something more serious, expensive care, or actual loss. Treatment of 3,121 dogs and cats—at Dr. Merrick's Animal Hospital—reveals **SULFODENE** stops itching quickly, clears up sores in a few days. To relieve your pet apply **SULFODENE** externally at first sign of "FUNGITCH." Only \$1.00 for generous treatment. Guaranteed.

**Dr. MERRICK'S SULFODENE**

## HOSE COUPLING

**Hose Coupling (Plastic Clincher)**—This easily attached, heavily plated connection grips the hose tightly. Leak proof. Dark green. Each **35c**; doz. **\$3.50**.

**Hose Mender (Plastic Clincher)**—Green plastic. Easily and securely attached. Each **15c**; doz. **\$1.50**.

## LABELS

**Pot or Garden Labels (Wooden)**—Used for marking plants in pots or seed flats.

4 in. ....	50c per 100
6 in. ....	65c per 100
8 in. ....	\$1.20 per 100
12 in. ....	1.25 per 100

**Wood Tree Labels, Wired.** Painted wooden labels equipped with wires, for marking trees or shrubs; also used extensively for labeling dahlia tubers.

	100	1000
3½ x 5½ in. ....	\$0.65	\$3.80

**Metal Plant Markers.** Permanent metal labels, green enameled. 7 in. long, with white marking space 2¼ in. by 1½ in. 12 for **\$1.00**; 25 for **\$2.00**; 100 for **\$7.00**.

## PLANT BANDS

Square bands will hold almost twice the number of plants as round pots of the same size. Facilitate handling when transplanting.

	Doz.	100
2 in. ....	\$0.10	\$0.65
2½ in. ....	.12	.75
3 in. ....	.15	.90

## PLANT SUPPORTS

**Dahlia or Garden Stakes**—Wooden—Painted green. Strong and durable. Almost rot-proof. Will last several seasons. For supporting dahlias, young trees, etc.

	Doz.	100
4 ft. ....	\$1.95	\$12.00
5 ft. ....	2.50	15.00
6 ft. ....	2.95	17.00

**Wayward Vine Guide and Support.** Practical device for training vines on walls. The support consists of small tab with a copper wire hook for holding the vine. The tab is easily cemented into place. Remains indefinitely; not affected by any weather conditions. Available in three colors, Red Gray or White. **Box of 25 (including cement) \$1.00.**

## POTS AND SAUCERS

**Standard Earthen Flower Pots.** A wide range of sizes, from 2½ in. to 12 in. diameter.

**Earthen Flower Pot Saucers.** 3 in. to 12 in. **Red Paper Pots.** Made of water-proofed paper. Excellent for growing seedlings or for packing plants for shipment. Nicely finished and long lasting. 2¼ in. to 6 in. diameter.

	Doz.	100	1000
2½ in. ....	\$0.23	\$1.00	\$ 5.75
3 in. ....	.28	1.25	6.85
4 in. ....	.40	1.65	9.45
5 in. ....	.45	2.35	13.75
6 in. ....	.50	2.60	17.00

## SEED SOWERS

**Cyclone Seed Sower**—Will sow many acres per hour, any amount per acre. Does the work quickly and saves labor. Used for sowing clover, timothy, alfalfa, lespedeza, sudan grass, oats, wheat, or any other seed that is sown broadcast. Each **\$3.25**.

## SOIL TESTING

**Sudbury Soil-Test Kits.** Provide a simple method of determining the nitrogen, phosphorus and potash contents and also the degree of acidity. No knowledge of chemistry is needed. These kits are used by Government departments, commercial growers, and thousands of home gardeners.

**Home Garden Kit (20 tests) ..... \$ 2.00**  
**Club Model (50 tests) ..... 4.75**  
**Horticultural Size ..... 9.75**  
**Professional Size ..... 18.50**

Additional testing fluids: **2-oz. bottle, 75c**; **6-oz. bottle, \$1.50.**

## TYING MATERIALS AND DEVICES

**Raffia, Natural.** A palm-fibre used for tying plants, bunching vegetables, weaving, and basketry. ½-lb. pkg. **50c**. In braids (uneven weights) just as pulled from the bale, **75c**.

**RAFFIA—Green Dyed**—The best tying material for plants or other purposes requiring a strong fibre tie. Also used for basket making. **\$1.25 per lb.**

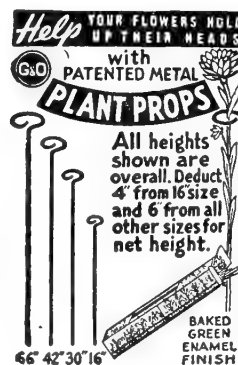
**"TWIST-EMS"**—Dark green tapes with wire reinforcing that makes perfect plant tie. A twist of the wrist and the plant is tied. Used by vegetable and market gardeners for staking and bunching. 7 in. 250 for **50c**.

## WATERING DEVICES

**Soil Soaker.** Puts water right in the soil at the plant roots. Made of porous canvas. Attached to a garden hose it fills up and water seeps through its entire length, soaking directly into the soil. 12 ft. long, **\$1.40**; 18 ft., **\$1.90**; 30 ft., **\$2.90**.



## METAL PLANT PROPS



- (a) Just hook 'em in—the job's done.
- (b) Support Flower
- (c) Support Flowers, Vegetables better.
- (d) Termite and rot proof. No Rag Ties.
- (e) Baked in garden green enamel.
- (f) So simple a child can place.
- (g) Processed stiff steel of varying thicknesses to suit required support.

16" size, **55c doz.**; 30" size, **\$1.10 doz.**;  
42" size, **\$1.35 doz.**; 66" size, **\$2.25 doz.**;  
78" size, **\$3.30 doz.**

## FENCE RODS

Handy ¼" diameter sturdy "jiggers" to protect, keep dogs and children from damaging plants, etc. Run rope or wire through loops and "cradle up" bushy plants. Green enameled. **Price \$1.35 per dozen.**

## WICKETS

**METAL**  
21" high  
13" wide  
4 ft. end to end, ¼" diameter, 21" high by 13" opening. Green enameled. No prongs to tear or scratch. Keeps traffic away. Markers for sidewalk lawns. 50 different practical garden uses. **Price \$1.65 per dozen.**



*The first requirement for a good lawn is good seed. But the best seed can't give you a permanent lawn unless amply and correctly fed. Remember this formula: Good seeding plus proper feeding!*



## IT'S ALL A MATTER OF BALANCE...

A balanced diet, complete with all the elements needed from the soil for proper growth, is necessary if the things we plant are to thrive. That's common knowledge among gardeners.

And that's why each year finds many more gardeners feeding everything they grow with VIGORO, COMPLETE PLANT FOOD. It is proving the answer to their gardening problems! Long years of research preceded the introduction of VIGORO in 1923. Since that time research,

experience and millions of satisfied users have combined to make Vigoro the world's best known plant food. Try VIGORO on everything you grow and see the difference it makes.

Economical, easy to use, VIGORO will help you have a lovelier lawn... more beautiful flowers, shrubs and trees... a bigger producing vegetable plot with less work and at less cost. **FEED EVERYTHING YOU GROW WITH**



### VIGORO PRICES

100 lb. bag.....	\$4.00	10 lb. bag.....	\$0.85
50 lb. bag.....	2.50	5 lb. bag.....	.45
25 lb. bag.....	1.50	1 lb. bag.....	.10

## How much plant food?

In the home garden the difference between scattering plant food broadcast on the surface and the newer method of row application is so slight that the simpler broadcast method is recommended. By applying 25 to 30 pounds of a good complete plant food to your soil over every 1,000 square feet, you can meet the needs of practically any crop you will grow that season. While some of the unused nitrogen might be lost by leaching if not taken up by plants, this represents perhaps a loss of less than 50c in value in the average garden. Unused potash and phosphorus will remain and be available for crops the following year.

Side dressing (scattering along the row) with sulfate of ammonia or nitrate of soda is recommended for all leafy green vegetables once or twice during the growing season. Ask for directions.

## Breaking up heavy clay

Breaking up heavy clay soil is a problem with many. Liming helps break up clays, and since most clays are also acid, this helps correct acidity at the same time. However, organic matter, weight for weight, is much more effective in breaking up clays, since one particle of humus will pull together or "ball" eight times as much clay as will lime. For this reason try to apply all the manure or compost you can to clay soil. Adding sand helps, too, but remember (and this is very important) that enough sand must be used. If less than one-third the total volume of the soil is sand, then the sand particles merely act like the crushed stone or gravel in a concrete mixture. The clay particles flow around the sand and form a mixture like cement that will bake harder than ever in summer. To really break up the clay in a garden 60' x 100' would require approximately 200 cubic yards of sand. So unless you are prepared to apply liberal amounts of sand, don't use this material.

Building up light sandy soils is almost entirely a question of using enough manure or compost, and of growing cover crops whenever possible to increase organic matter. On small plots, adding clay has value, but this is costly unless the clay can be had for nothing.

## Buy Plant Foods from those who KNOW!

**An excellent rule, in buying plant food, is this—**

**"Buy only from someone who takes your garden to heart!"**

We seedsmen want every customer to get the best possible results out of the seed we sell. We know that proper feeding can make or break a garden or lawn. And we know what is right and what is wrong.

So each sale of plant food means a lot to us! We're vitally interested! We want to help!

Folks who know buy their plant foods accordingly.

# PLANT FOODS

**ADCO**—Converts almost any non-woody vegetable waste, leaves, vines and weeds into real manure fully equal to the farmyard product in fertilizing power. Free from fowl odor, flies, weed-seeds, etc. 7½ lb. bag \$1.00; 25 lbs., \$2.50; 150 lbs., \$11.50.

**ALKEMI**—New 100% organic soil activator, containing all the growth factors needed in a garden soil, including beneficial soil bacteria, enzymes, hormones and minerals. Fulfills all demands of those who advocate all-organic soil feeding.

**ALUMINUM SULPHATE**—A material used in creating acid soils necessary for successful culture of Azaleas, Rhododendrons, and similar plants.

**ASHES, HARDWOOD**—High potash content. Contains all of the fertilizer elements except nitrogen. Tends to drive away insects.

**BONE MEAL**—All-purpose fertilizer, rich in the two principal plant foods—nitrogen and phosphoric acid.

**COW MANURE**—Fine and dry. Heat-treated to kill all weed seeds. Excellent for garden, lawn and greenhouse. Absolutely weedless. Builds up the soil and feeds plants in nature's safe way.

**FRUITONE**—The remarkable hormone spray that stops pre-harvest drop of fruit. Sprayed on flowers of tomatoes it makes a high percentage of the crop SEEDLESS! Also beneficial on beans and on flowers.

**HUMUS**—One of the best soil conditioners. Makes soil more workable and helps it hold moisture. Not a substitute for fertilizer, but an excellent companion for it. In convenient sized packages.

**HYPONEX**—Grows bigger and better house plants, flowers, vegetables, lawns and trees in poorest soil—even in sand, cinders, or water. Doesn't burn. Clean, odorless, soluble powder. 1 oz. pkg., 10c; 3 oz. pkg., 25c; 1 lb., \$1.00.

**LEGUME INOCULATION**—Just as necessary for garden peas and beans, lima beans, sweet peas and lupines as for alfalfa, clover, etc. The nitrogen-gathering bacteria build up the soil, increase your yields.

**Inoculation** is the cheapest form of crop insurance. Packages from the 10c garden size up to 5-bushel size.

**LIME (Hydrated)**—Sweetens sour soil for lawns, and clover. Is used as a reducer and in combination of many insecticides; for whitewash, deodorizing.

**HY-GRO 13-26-13**—Extra-highly concentrated plant food, quickly soluble in water. An excellent starter solution and all-around fertilizer. One ounce feeds 25 square feet of garden. 3-oz. jar, 25c; 20 oz. jar, \$1.00; 10 lb. size, \$4.00.

**NITRAGIN**—Restores and maintains soil fertility. This original legume inoculator

contains billions of efficient nitrogen-gathering germs, builds up the soil. Dated to insure freshness.

**NITRATE OF SODA**—Very quick source of nitrogen. Hastens maturity of crops. Should not be applied until plants are well above ground.

**PEAT MOSS**—Fine for garden mulch, as it conserves moisture. When incorporated in the soil, it promotes growth and supplies humus, which is very essential for growing plants. Fine winter protection for lawns; also as a mulch on strawberry, perennial beds, roses, evergreens, etc.

**PLANTABBS**—Clean white odorless plant tablets for indoor or outdoor use. See below.

## LOVELY FLOWERS VELVETY LAWNS

*Easy* when you fertilize with  
**DRICONURE**

This 100% all-organic fertilizer and soil improver helps you grow better flowers, vegetables and lawns. Economical, safe, easy to use.

In 50 lb. bags (approximately 2 bushels). Order a supply today.



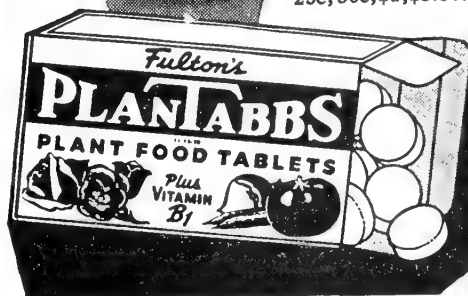
## Potted Plants Garden flowers and vegetables grow amazingly when fed with PLANTABBS

Plantabbs put life and vigor into all plants, indoor and out. You can have beautiful Ferns. No brown tips. Gorgeous Begonias, Ivy, African Violets, Gardenias. It's easy to keep all garden flowers and house plants green, lovely, full of blooms.

**GIVE YOUR VEGETABLES AN EXTRA BOOST**  
Feed them these plant food tablets. Get early, big yields—tomatoes, beans, cucumbers... all garden vegetables.

Fulton's Plantabbs provide a rich formula of Nitrogen (11%), Phosphoric acid (15%), Potash (20%), plus the secondary plant foods & Vitamin B1.

Easy to use. Insert tablet or dissolve in water. Results guaranteed or get your money back. Four sizes 25c, 50c, \$1, \$3.50.



## HYPONEX PLANT FOOD

Grows bigger, better house plants, flowers, vegetables, lawns, and trees in poorest soil—even in sand, cinders or water. Results sure. Doesn't burn. Clean, odorless, soluble powder. 1 oz. makes 6 gallons.



	Retail
1 oz. pkt. (packed 72 to case)	10c
3 oz. can (packed 36 to case)	25c
7 oz. can (packed 24 to case)	50c
1 lb. can (packed 12 to case)	\$ 1.00
10 lb. drum, makes 1000 gals.	8.00
25 lb. drum, makes 2500 gals.	15.00
50 lb. drum, makes 5000 gals.	25.00
100 lb. drum, makes 10,000 gals.	40.00

# NEW ORGANIC SOIL ACTIVATOR

**ALKEMI, "50 times as effective as common fertilizer," re-builds the soil**

Here is one of the most important messages about soil fertility you have read in years! It brings you news about a new material that makes real "compost gardening" easy... an organic soil builder that lets you return to the soil the vegetable matter you take out of it!

You've been hearing and reading a good deal, lately, about the need for organic replenishment of our soils, and the ills that come in the train of too much chemical feeding.

Now a great new discovery makes it possible for every gardener to re-build his soil "the all-organic way."

### Not just a fertilizer

The name of this great new material is ALKEMI Soil Activator. It is the patented discovery of one of the world's foremost soil authorities. It is not an ordinary plant food, but a soil inoculant and re-builder.

ALKEMI acts like a "plasma." It is pure organic matter, activated by friendly soil bacteria which fix nitrogen in the soil and help reduce minerals to soluble plant food.

### Everything your plants need!

Truly good soil... soil that will produce richer vegetables, brighter flowers, lawns of deeper green... must have more help than chemical fertilizers alone can give it. Good soil must have bacteria, enzymes, hormones, minerals... more than 20 different growth-producing factors.

Manures and composting used to supply all these factors, but nowadays most garden soils are depleted—no matter how much chemical feeding they've had.

That's why ALKEMI is such a tremendous boon to modern gardeners. It provides all the needed growth factors quickly and economically.

### 50 times as effective!

ALKEMI gets results in a totally different way than common fertilizers. Tests show it beats fertilizers 50 to 1, pound for pound. So—if you raise vegetables or flowers, commercially or at home... if you want a richer, greener lawn... you owe it to yourself to test the ALKEMI COMPOST WAY against your present methods. Let results decide!

In clean handy packages.

5 lbs...	\$ 2.00
10 lbs...	3.00
25 lbs...	6.50
100 lbs...	24.00



# Alkemi SOIL ACTIVATOR



## PLANT FOODS — Continued

**ROOTONE**—You can help cuttings to root faster by dipping them in the hormone powder, Rootone, before planting. Percentage of successful rooting is increased remarkably by this new treatment.

**ROSE FOOD (G & O)**—A balanced combination of organic ingredients, selected for the particular "make-up" and sequence availability that roses need. Improves the color and size of your roses.

**SHEEP MANURE**—An economical and effective balanced plant food. Excellent for lawns, gardens and general use. Most extensively used of animal manures in feeding of lawns and gardens. Weed-free and rapid in its action. Supplies an abundance of humus and all the essential plant-food elements.

### SUDBURY SOIL TEST KITS

**Do your own soil testing!** Kits are simple, practical, easy to use. Let you determine

just how to fertilize and lime for best results. Complete kit, good for 20 individual tests, \$2.00.

**SUPER PHOSPHATE**—Aids plant nutrition and assists the plant to assimilate other ingredients. An efficient fertilizer element for lettuce, truck crops, cereal crops and alfalfa.

**TRANSPLANTONE**—Remarkable new Vitamin-Hormone stimulant effective in reducing transplant shock, and wilt of all kinds of plants or shrubs. Also effective in bringing about earlier maturity on tomatoes, lettuce, celery, peppers, tobacco and cabbage.

## BAND-DIT

COPYRIGHT 1936

### SAVES PRECIOUS TREES

**ALL PREPARED AND EASY TO APPLY—  
A SIMPLE METHOD OF BANDING TREES**



A STICKY BAND  
WITH DDT  
FOUR CONVENIENT  
LENGTHS  
2 FT. TREES UP TO  
7 1/2" IN DIAMETER - 50c  
3 1/2 FT. TREES UP TO  
13" DIAMETER - 75c  
5 FT. TREES UP TO  
19" IN DIAMETER - \$1.00  
8 FT. TREES UP TO  
31" IN DIAMETER - \$1.25

**Mfg. by UNIVERSAL TREE BAND CO.**  
1440 Grand Ave. St. Paul 5, Minn.

**VIGORO**—The complete plant food. Supplies all the elements growing things need from the soil. Because it offers such complete nourishment, Vigoro helps produce greater yields of finer flavored, more nutritious vegetables. Produces lovelier lawns and flowers. Clean and odorless. 5 lbs., 45c; 10 lbs., 85c; 25 lbs., \$1.50; 50 lb., \$2.50; 100 lbs., \$4.00.

# WEEDONE

TRADE MARK

## The famous 2,4D weed-killer

Kills Poison Ivy, Poison Oak, Bindweed, Honey-suckle, Dandelion, Plantain, many other noxious weeds. Sprayed on leaves, it travels down and kills internally, right out to the root tips. Sprayed on lawns, it kills lawn weeds *without killing grass*. Safe for humans and animals. Does not hurt the soil or corrode spraying equipment. Just mix with water and spray.

6-ounce can 75c..... covers 1,000 sq.ft.  
Quart \$2.50..... covers 5,000 sq.ft.  
Gallon \$7.50..... covers 1/2 acre

Larger Quantities on Request

## G & O ROSE FOOD



... at last, a real organic, no-filler fertilizer, **ESPECIALLY FOR ROSES!**

You can't feed roses a "good-for-everything" commercial food and get the color, size of bloom and stock you want!

G & O Rose Food is specialized—a balanced combination of ORGANIC ingredients—selected for the particular "make-up" and sequence availability that roses need. TRY IT—and see what a difference it makes!

1 lb., 20c; 5 lbs., 65c; 10 lbs., \$1.15; 25 lbs., \$2.50; 100 lbs., \$8.50.

For better color, size, strength

## PEST EXTERMINATORS

"Their Last Meal"

**ANT-X JELLY BAIT (Thallium)**—For destroying all species of ants—SIMPLE TO USE—Not a repellent but a food bait that ants eat and carry back to the nest. Destroys entire colony. "THEIR LAST MEAL." 35c and \$1.00 sizes.

**ANT-X ANT TRAPS (Thallium)**—A safe, sanitary method for controlling ants in house and garden. Attracts and destroys both sweet and grease-eating ants. Cannot be opened by children or spilled by pets. May be placed inside ice-boxes or other food containers without contaminating foods. "THEIR LAST MEAL." 25c.

**RAT-NOTS**—A non-poisonous prepared bait containing genuine RED SQUILL. Safe, sanitary! Rats are attracted to RAT-NOTS because of their tempting odor. "THEIR LAST MEAL." 25c and \$1.00.

### RAT-TU . . . contains Antu, the marvelous new rat killer.

Here are two remarkable new poisons, both made with the recent discovery, Antu, most successful rat poison ever made available:

**RAT-TU with 25% Antu, for tracking**—sprinkle it in runways and burrows. Rats track through it and are fatally poisoned when they lick their feet. 35c and 60c sizes.

**RAT-TU with 5% Antu, for baiting**—use it in their drinking water or for bait. Sifter-top can, 35c.

**MOUSE-NOTS**—Easily hulled, treated seed bait, appeals to the finicky taste of mice. Spread in places mice frequent. "THEIR LAST MEAL." 25c and \$1.00 sizes.

**ROACH-NOTS**—A prepared powder bait, quick and effective. Also quickly kills water-bugs and silverfish. "THEIR LAST MEAL." 25c and \$1.00 sizes.

**MOLE-NOTS**—Life-saver for lawns, flower and seed beds. Sure death to bulb-eating, root-destroying moles. Safeguards bulbs at time of planting. "THEIR LAST MEAL." 35c, \$1.00 and \$2.00 sizes.

**NOTT'S ANTU RAT PASTE (5% Antu)**—For big, well-fed, hard-to-catch rats which dodge cats and traps, and are finicky in their eating habits. "THEIR LAST MEAL." Handy tubes, 35c and \$1.00.

**DOG-CHECK**—An effective proven curb to canine habits, needed by all whose neighbor's dogs "visit" and wither flowers, shrubs, hedges. One spraying usually lasts two to three weeks—unaffected by light rains. 60c and \$1.00 sizes.

**SKEET-CHECK**—An ointment repellent, in convenient handy tubes, easy to apply and pleasant to use. Unexcelled for repelling mosquitoes, gnats, black flies, deer flies and other annoying insect pests. Is also an excellent soothing salve. 35c.

**FLEA-NOT-POWDER**—Kills fleas, ticks, lice and other parasites which infest the skin of dogs and other pets. Harmless, easy to use—attractive shaker top can. \$25c.

## ROOTONE

Reg. U. S. Pat. Off.

### The Plant Hormone Powder

This nationally known hormone powder makes cuttings root faster and more successfully. It stimulates seed germination so that rooting is heavier and you get a better stand of seedlings. Endorsed and used by leading growers everywhere. Trial packet 25c—2 oz. jar \$1.00—1 lb. can \$5.00.

## FRUITONE

REG. U. S. PAT. OFF.

**FRUITONE**, the hormone spray for stopping premature drop of fruit, flowers, and leaves. Sprayed on flowers of tomatoes or beans, it produces better set, larger crop, and high percentage of seedless tomatoes. Makes Christmas greens hold their leaves longer. 2 1/5-ounce packet, 25c. 2-ounce package, \$1.00. 12-ounce can, \$5.

## TRANSPLANTONE

Reduces shock and wilt when plants are moved. Produces earlier maturity on tomatoes, lettuce, celery, peppers, tobacco and cabbage. Used on plants, shrubs and trees it encourages growth and bloom. One teaspoonful of powder makes 10 gallons of solution. Trial packet 25c—1 oz. can 50c—3 oz. can \$1.00—1 lb. can \$4.00.

# GARDEN TOOLS

Scarcity of steel and other disappointing factors are still holding back tool production more than we anticipated. We have, naturally, done our best to gather a good supply of the tools you will need — and are confident we will be able to take care of your requirements. We suggest that you visit our store, from time to time, to take advantage of incoming shipments.



## CULTIVATORS

**Speedy Cultivator.** Highly tempered steel tines, sharp and curved to penetrate the soil with an easy pulling motion. Excellent under shrubs. 4 tines, 4 1/3 ft. handle.

**Norcross Cultivator.** Rugged tool with forged steel teeth, adjustable fastening. Fine for plots not large enough to need wheeled cultivator. 5 tooth, 4 ft. handle.



**Hand Cultivator Weeders.** Short handled weeders. Indispensable for close-in work. 3 and 5 prong styles.

Visit our store for further selection.



## FORKS

**Spading Fork.** Light weight with D handle. 4 angular black tines with polished face.

**Spading Fork.** Heavy weight with D handle, 4 tines. An indispensable garden tool for general spading and digging.

**Hay Fork.** Bent handle, 3 tines, 4 tines.

## HOOKS

**Grass Hooks (Sickles).**—Various styles, all with good steel cutting blades and well-balanced designs. Wood handles.

**Potato Hooks.** Best quality, with 4 broad oval tines tumbled. Handles 4 1/2 feet.

## SHEARS

**Grass Shears.** Easy cutting action for trimming edges and borders. High quality steel, pinch-proof handles.

**Hedge Shears.** Can be used both for trimming hedges, and for cutting grass under fences, bushes, etc. 8 and 9 inch blades.



## HOES

**Field or Garden Hoe.** The standard, General-purpose hoe for garden and farm use. Full polished blade, 6 1/2 inches wide, riveted to steel shank. 4 foot handle.

**Onion Hoe.** Square top pattern with full polished 6 1/2 x 1 3/4 inch blade and 4 1/3 foot spring pattern handle.

**Scuffle Hoe.** Skims under the surface of the soil, cutting off weeds, and making a dust mulch. 8 inch black blade, straight 5 foot handle.

**Warren Hoe.** Pointed steel head for drilling seed, covering furrows, hilling and cultivating.

## KNIVES

**Asparagus Knife.** 10 inch forged steel blade, hardened and tempered, with V-shaped cutting point. Can also be used as dandelion weeder.

**Budding, Propagating, and Pruning Knives.** Ask for available items.

**Edging Knife.** It is easy to keep the lawn well trimmed with this splendid long-handled half-moon shaped edging knife.

## SCYTHES

**Grass Scythes,** for all-around use.

**Weed Scythes,** strong and stiff.

**Bush Scythes,** for underbrush.

Made of best crucible steel, strongly ribbed, finished in black with polished cutting edge. We offer as large a variety as may be available in blade and handle length styles. Visit our display!

## SHOVELS

**Square Point Shovel.** Highest grade with polished blade, smooth back, strapped. Long handle and D handle type.

**Round Point Shovel.** Best home garden shovel. Long D handle, smooth back, strapped.



## RAKES

**Rakes, Steel, Curved Tooth.** Strongly made with steel teeth on head 1/4 inch thick. Handles are straight, 5 1/2 feet long.

**Rakes, Steel, Straight Tooth.** Standard level-head. Reverse side can be used for leveling beds. 14 straight teeth.

**Wood Rakes.** Rigidly and strongly constructed. Used for lawn work.

**Bamboo Rakes.** A fan shaped rake strongly made to stand a lot of hard usage. 18 inches, polished wood handles.

**Steel Broom-Rake.** Flat, spring-steel teeth, bent at ends. Will remove smallest leaves and litter without injuring the sod.

## PRUNERS

**Pruning Shears.** Visit our store to see latest available types.

**Tree Pruners.** The steel cutting blade easily cuts branches with smooth, clean results. Three lengths of handles available: 8 feet, 10 feet, and 12 feet long.

**Flower Gathering Shears.** Make flower gathering a one-hand operation. They cut the stem of the flower and hold it for you.

## SPADES

**Square Point Spade.** Fully strapped, smooth back with flat polished blade. D handle.

## TROWELS

**All-Steel Garden Trowel.** Made of one piece of rigid steel, with shaped ventilated handle. Polished blade, 6 inches.

**Transplanting Trowel.** Light, strong, and durable. Ideal for transplanting seedlings. Narrow 6 inch blade of solid steel.

## WEEDERS

**Hand Weeder.** Three forged steel tempered prongs with short handle. One of the finest weeders for close work.

**Lawn Weeder.** Curved blade edge loosens the soil, grasping plant without disturbing surrounding soil. Forged-steel blade, with long hardwood handle.

**Weeder and Hoe Combined.** Saves time and does the work with half the labor.

**Dandelion Weeder.** V-shape design insures positive cutting without effort. Made of tempered steel to withstand hard usage.

## SPRAYERS and DUSTERS

"Bugs is bugs," whether they're attacking a hundred acres of fruit trees or a back yard garden patch. To fight 'em, you need the right spray equipment. And to get that kind of equipment, CONSULT US! We KNOW sprays and sprayers — and we're always anxious to make sure you get the right kind.

**Compressed Air Tank Sprayers.** Open top or funnel top, 2 to 4 gallon sizes, for all types of farm and garden spray work, whitewashing, etc. Easy to fill, easy to clean.

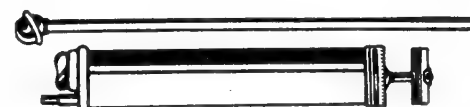
**Light Hand Sprayers.** The right models for the back yard garden, chicken house, etc. (Supply is short, but we can probably take care of you.)

**Wheelbarrow Type Sprayers.** Heavy duty portable outfits for orchard, farm, and industrial work. Consult us about models available.

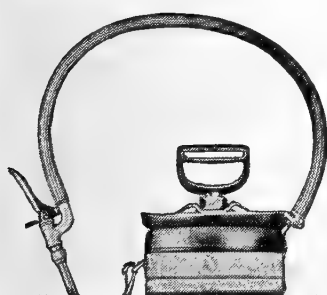
**Bucket Spray Pumps.** Bucket or barrel types for white-wash, cold water paints, insecticides, caustic mixtures, etc. Consult us about models available.



**Continuous Spray-ers.** Convenient, efficient sprayers for insecticides, fly oils, deodorants, fly repellents, stock sprays, etc. For farmer, gardener, poultryman.



**Dusters.** Various models, made to handle any powdered insecticide, with any desired discharge from a very fine to a very heavy cloud. Heavy duty models for truck farms, orchards, etc. Lighter models for the garden.



Sprayer supplies are still not normal. However, we are making every effort to maintain a complete stock and expect to be able to take care of your needs.



# INSECTICIDES and FUNGICIDES

For ant controls and other pest exterminators, refer to complete list on Page 36.  
Prices are subject to change without notice.

**ARSENATE OF LEAD**—The standard insecticide for controlling practically all leaf-eating or chewing insects. Spray or dust. 1 to 2 tablespoonfuls make 1 gallon spray.

**ACME BAIT-M**—Contains Tri-Calcium Arsenate, proven by years of use, to control cutworms, sow bugs, and grasshoppers. Also contains the marvelous new ingredient, metaldelhyde, to destroy slugs and snails.

**BLACK LEAF 40.** Nicotine Sulphate 40% solution for controlling aphids (plant lice), thrip and other soft bodied sucking insects. 1 teaspoonful makes 1 gallon. 1 oz. bottle, 36c; 5 oz. \$1.05.

**CALCIUM ARSENATE**—Arsenic and lime. A cheap quick-acting poison for potato bugs and other leaf-eating insects.

**BORDEAUX MIXTURE.** Standard copper fungicide for controlling black spot, mildew, blight, leaf-curl, scab and other fungous diseases on flowers, fruits, vegetables and other plants. 1 lb. 35c; 4 lbs. 95c.

**CERESAN**—Effective in controlling covered smut and stripe of barley, oat smuts, and bunt or stinking smut of wheat. A pound treats 32 bushels. 4-oz. pkg. 30c; 1 lb. 80c; 4-lb. pkg. \$2.70; 25-lb. pkg. \$15.00.

**CYANOGEN "A" DUST.** Calcium cyanide for killing rats, moles, gophers, etc. Gives off deadly gas but leaves no poisonous residue. ¼ lb. can 30c; ½ lb. 45c; 1 lb 75c; 5 lbs. \$3.00; 25 lbs. \$10.00.

**CYANOGEN ANT KILLER**—A. Dust. Powder to be blown into ant-hills, etc. 4 oz. can 30c.

**CYANOGEN G. FUMIGANT.** The most effective fumigant for greenhouse pests such as white fly, thrips, aphids, etc. Fumigation is started at dark by scattering the Cyanogen on the walks after which the house is closed for the night. 5 lbs. \$3.00.

**D. X. SPRAY.** An economical spray for both sucking and chewing insects. Kills aphids and Mexican bean beetles; harmless to human beings. 1½-oz. bottle, 45c; 8-oz. bottle, \$1.45.

**GO-WEST INSECT BAIT**—Combats and destroys cutworms, grasshoppers, snails and other insects with similar leaf-eating habits.

**KOPPER QUEEN MILDEW SPRAY**—A strong liquid spray for control of mildew, leaf spot and black spot on rose bushes, flowers and many other kinds of foliage. Leaves a thin insoluble film of copper, preventing fungous attack, without unsightly residue.

**KOPPER SHIELD PRUNING PAINT**—A specially prepared liquid paint containing copper for treating wounds left by pruning, storms, or accidents, to prevent such diseases as European canker fungus, hard rot, and certain other fungi. Forms a protective shield while the tree is naturally overcoming the shock.

**KRYOCIDE**—Can be used as dust or spray for effective control of chewing insects.

**LIME SULPHUR, Liquid**—A dormant spray material against scale of all kinds. Dilute with cold water—1 gallon makes 10 gallons of spray.

**LIME SULPHUR, Dry**—A dormant spray to kill scale or use as a summer spray for control of fungus disease.

**NICO-FUME LIQUID**—A greenhouse fumigant and spray material. 1 lb. can \$2.50; 4 lb. can \$7.10; 8 lb. can \$13.00.

**NICO-FUME POWDER**—A greenhouse fumigant for the control of numerous insect pests. ½ lb. and 1 lb. sizes packed in pressure fumigator containers. ½ lb. tins 60c; 1 lb. tins \$1.00; doz. \$7.40.

**PARIS GREEN.** An effective insecticide for control of chewing insects, particularly recommended for potato bugs. ¼ lb. 20c; 1 lb. 70c.

**POMO-GREEN WITH NICOTINE**—A combined insecticide and fungicide for control of black spot and mildew on plants and shrubs, especially Roses. Does not discolor foliage.

**RED ARROW GARDEN SPRAY.** Concentrated Pyrethrum and Rotenone extract containing soap, spreader and sticker. Harmless to animals. 1 oz. 35c; 4 oz. \$1.00; 1 pint \$2.85; 1 quart \$5.00; 1 gallon \$17.00.

## D.D.T. PRODUCTS for Farm and Garden

### DURADUST No. 50 Contains 50% Wettable DDT

The strongest, finest DDT powder science has yet been able to produce! Duradust No. 50 is toxic when eaten by the insect or when it comes in contact with the insect's legs or body. Its killing power endures. **FOR CROP SPRAYING OR DUSTING**—controls codling moth, oriental fruit moth, leaf hopper, flea beetle, psyllid, potato bug, potato aphid, plant bug, Jap beetle, cabbage worm, caterpillar, thrip, rose chafer, and many others. Suitable for all plants except vine crops. **FOR LAWN SPRAY**—controls cutworms, ants, earwigs, sow bugs, chinch bugs. **FOR**



**WALL SPRAY**—most economical in barns, milk houses, hog sheds, etc. Also excellent **FOR CATTLE SPRAY, DIP, OR DUST.** 1 lb., \$1.00; 4 lbs., \$2.65; 50 lbs., \$31.00.



### RED RIVER POTATO MIX

Contains 9.5% Wettable DDT, 15.1% Metallic Arsenic, 25.7% Metallic Copper. For years the recognized leader, now even better. Shows 25% and more increases in yield when compared to older methods in repeated tests. Controls all insects which eat the leaves, suck sap, irritate leaf surfaces or cause disease infection. Acts as a stomach poison and by contact. High copper content gives better blight prevention, produces green, healthy foliage. Use as spray or as dust. 1 lb., 50c; 4 lbs., \$1.55.

## ACME GARDEN DUSTS AND SPRAYS



### ROTENONE GARDEN GUARD

An ideal insecticide for the home garden. Dust or spray. The killing ingredient is Rotenone ¾ of 1%—non-injurious to human and warm blooded animals. Acts both as contact and stomach poison against a wide range of insects. 1 lb. sifter carton, 55c; 1 lb. pump gun, 75c; 4 lb. pkg., \$1.20; 50 lb., bag, \$13.00.

### ACME TOMATO DUST

Especially prepared to control blight and worms preying on tomatoes. While specifically designed for tomatoes, it also is equally effective in the control of leaf chewing insects and blight on many other vegetables such as potatoes, cucumbers, beans and cabbage, also many flowers as roses, azalea, evergreens, asters, and hollyhock. 1 lb. pump gun, 65c; 1 lb. sifter, 45c; 4 lb. pkg., 90c; 50 lbs. \$10.



### ACME GARDEN DURADUST 5% DDT and 9% Metallic Copper

Ready to use—for vegetable and flower garden. The DDT is picked up on contact by insects' legs and bodies—and quickly penetrates vital parts. Very effective against insects not killed by older remedies (such as leaf hopper, corn ear worm, rose chafer.) Sprinkled on lawns, it is very beneficial as a control for cutworms, ants, earwigs, sow bugs, chinch bugs and several other lawn enemies. 1 lb. sifter carton, 50c; 4 lb. bag, \$1.10.

### ACME EMO-NIK

A valuable spray for the control of scale, red spider, mealy bug, white flies, rust mites, aphids, and many other common insects. A complete contact insect spray combining nicotine in its most active form with Emo, a high quality summer oil emulsion. Practically odorless when sprayed. 4½ oz., 35c; pint 70c; quart, \$1.00; gallon, \$2.75.



### ROTENONE GARDEN SPRAY (NNOR)

Containing Rotenone, kills most common garden bugs of both sucking and leaf eating types. **You've got to wet them—to get them.** NNOR penetrates the waxy or hairy covering, brings the tremendous power of Rotenone into action. 1 oz., 35c; 6 oz., \$1.00; 16 oz., \$2.15; gallon, \$13.50.

### ACME WETTABLE DUSTING SULPHUR

An improved dusting sulphur for home use which can also be used as a liquid spray. Controls red spiders on evergreen, mildew, leaf spot, black spot, and rust on rose bushes, chrysanthemums, snapdragons, carnations, and certain other foliage. 98% passes through a 325 mesh screen. An excellent chigger chaser. 2 lbs., 40c.



ASK FOR YOUR FREE COPY  
of the ACME SPRAY GUIDE



# Michigan Soil and Climate Suited to Wide Nut-Tree Culture

## Experiments Prove Trees Will Thrive

Former Resident of Michigan Grows 300 Varieties of Nuts on Ontario Reserve

By ALBERT STOLL, JR.

Near the little town of Islington, Ontario, not far from Toronto, George Hebden Corsan, a former Michigan resident, has been carrying on experiments in the culture of nut trees that perhaps is without parallel in this country. It is unique in that he has succeeded in growing exotic nuts never before attempted, and through grafting and cross fertilization has produced numerous hybrids. Corsan at one time had charge of the Kerlogh Migratory Bird Sanctuary, near Battle Creek, and had carried on a number of experiments in nut tree culture there. Twenty years ago he purchased 20 acres of fertile land just out of Islington, placed it under the charge of an assistant and started planting nut trees on an extensive scale.

Today his results of 20 years of experimentation has brought him over 300 different kinds of nuts, most of them highly palatable and easy to raise on the type of land found in Michigan south of the Saginaw-Muskegon line.

### RAISES SEEDLINGS

In addition to nut tree planting Corsan also conducts his own tree nursery where the small seedlings are raised for his plantations. One year this nursery produced 22,000 black walnut, 4,000 Circassian walnuts and 2,000 giant hickory seedlings, many of which were disposed of commercially to those interested in tree culture.

In planting the nuts themselves to produce trees, Corsan says that they should first be stratified by placing them in wet hay or moss on the ground in fall and planting them in spring. In sandy soil they should be placed at least two inches underground, but in rich soil one inch is sufficient.

"Experimenting in crossing different varieties has produced some interesting results," said Corsan. "For instance, the native black walnut crossed with the English walnut should have produced a fine nut, but instead I only got a poor meated nut. One of my finest flavored nuts is the Japanese heartnut, producing a single meat. I have the finest butternut flavor imaginable."

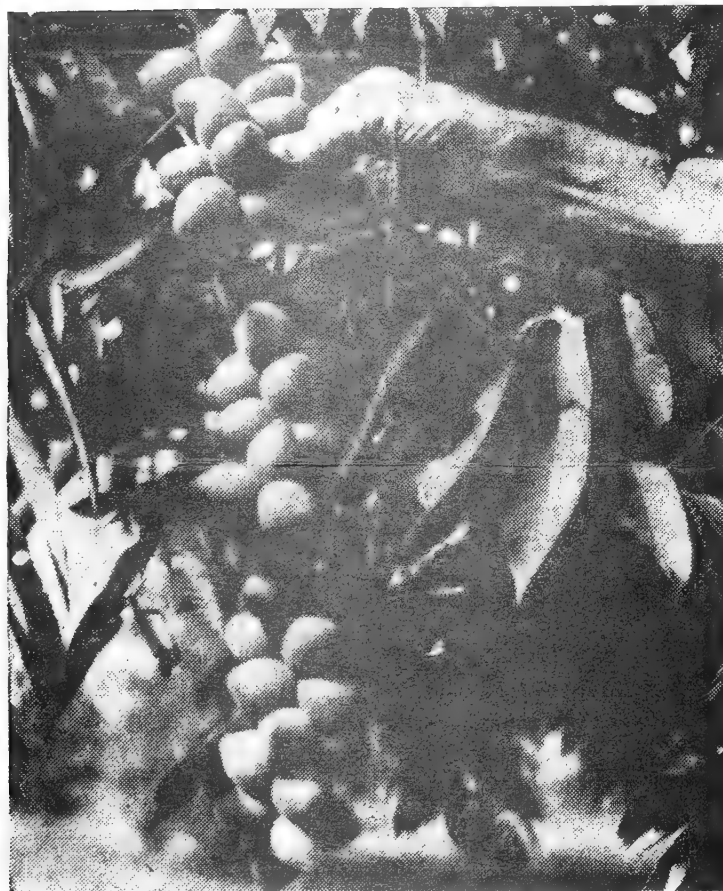
I have one tree upon which 12 different varieties of nuts are growing. This was produced through grafting. My shortest-lived tree is the hard-shelled almond which rarely lasts over 30 years, while the Chinese hazel will live and produce for as long as 400 years, reaching a height of 200 feet. Likewise, the Circassian walnut will live for 250 years, and grows from 75 to 125 feet high.

### KIND OF SOIL

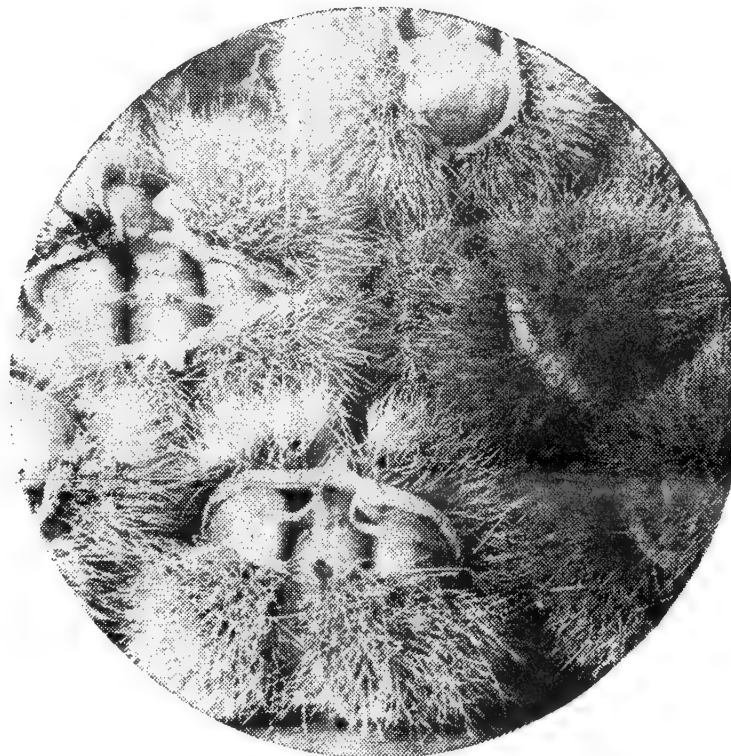
When asked just what kind of soil was best suited to nut culture Corsan said: "Some want a lime soil, other highly acid. This can be determined through experimentation. I have found that the American chestnut will not live in any kind of soil, for it seems destined to die of the chestnut blight shortly after it gets a start. But the oriental varieties will do well here. I also have been able to produce 12 varieties of pine nuts and all are highly palatable."

Corsan has gathered his seeds from all over the world, and just as soon as he hears of a strange nut off goes his order for seed stock.

"Nut tree culture has been neglected in the past," says Corsan, "but there is no reason why this should hold true today. The product always brings good prices, and it is an important item of food. Any one desiring any interesting and profitable undertaking can't go wrong taking up nut tree culture," he concluded.



Japanese walnuts produced by Corsan at his experiment station. Note the tropical-like foliage and the heavy fruit clusters.



Above: Some of the nuts produced at Islington, Ont., by George Hebden Corsan. They are all exact size. First, the Carpathian Giant Circassian Walnut. Second, the river bottom hickory. Third, the hican, a cross between the hickory and pecan. Fourth, the filbert and fifth, the tree hazel. Below is a cluster of Chinese sweet chestnuts. This chestnut does well in America while our native is subject to blight.

# Nut Trees for Michigan



Corsan transplanting a three-year-old Circassian walnut tree grown on his Islington, Ont., farm from Russian seed.



George H. Corsan points with his pruning shears to where a Circassian English walnut tree has been grafted to a black walnut tree. Corsan calls shade trees "weed trees" because "all they produce are leaves and a poor quality of wood. Nut trees," he adds, "are beautiful, give shade, furnish an easily marketable crop and produce valuable wood when through bearing."



Giant Circassian and hickory nuts grown on Corsan's farm.



Japanese heartnuts, much like our butternuts. The tree grows very fast.

By Russell Gore

**H**OPE for some of Michigan's "Ten million idle acres" of former pine-lands is held out by the experimental planting in the southern part of this state of exotic nut trees usually associated with warmer climes.

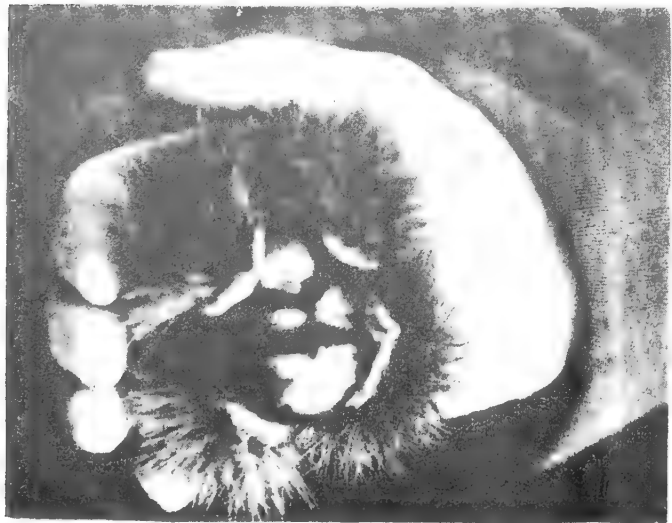
Special attention is being paid to the paper-shelled English walnut that forms so large a part of California's nut crop. Pecans, pawpaws, Japanese heartnuts and even persimmons are among the many varieties being planted both on farms and estates and at the University of Michigan arboretum.

Preliminary experimental work, covering a period of 20 years, has been done by George Hebden Corsan, former Michigan resident, in his nut plantation at Islington, near Toronto, Ont. Here, in a climate similar to that of Michigan below Saginaw on the east and Muskegon on the west, he has produced more than 300 varieties of nuts.

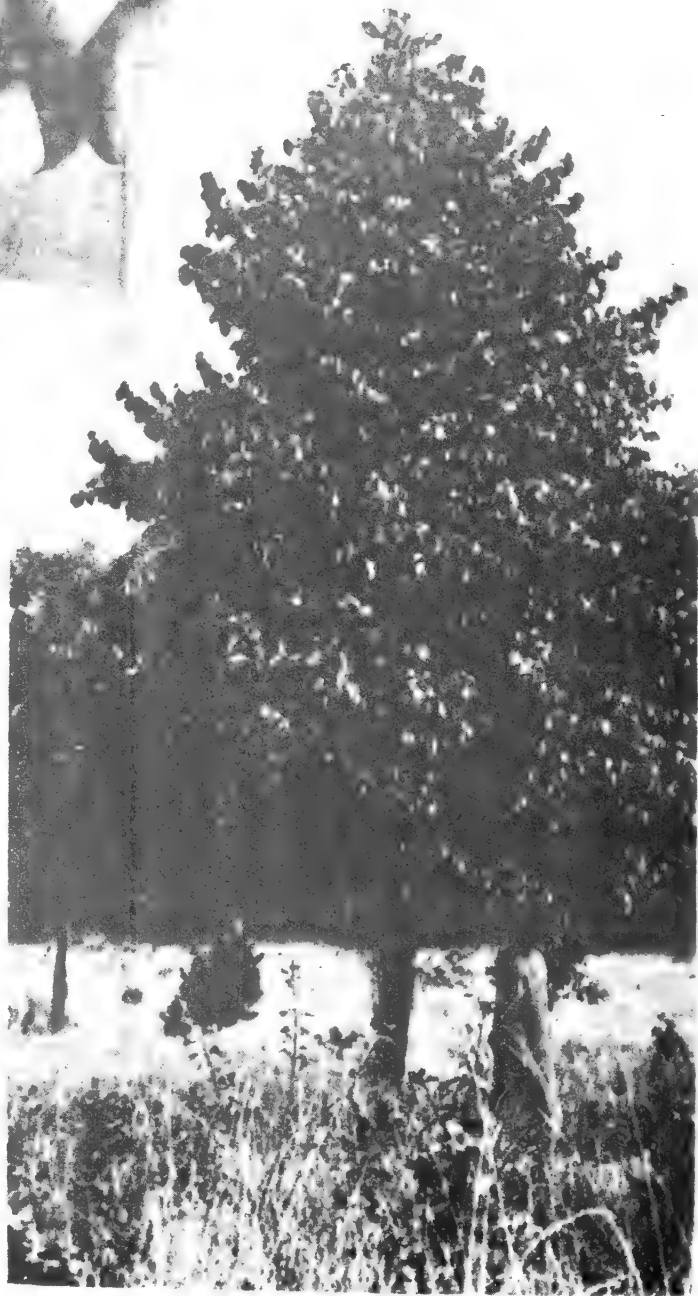
Prominent among Corsan's exotics is the paper-shelled English walnut, the Circassian. This tree heretofore has taken many years to mature. But Corsan has evolved a variety that grows from seed to bearing stage in from six to seven years, and matures even more rapidly when grafted on the native black walnut of Michigan woods. It is the only one of the 110 named varieties that can be adapted to northern climes.

Another exotic is known as the "Hican," a southern pecan grafted on the native hickory. Its nuts are sweeter because ripened by frost. An Asiatic being introduced here is the blight-resistant Chinese chestnut.

Corsan, swimming instructor for all California Army, Navy and Aviation camps during the World War, and later for the national Y. M. C. A., studied trees and birds as a hobby. A lecture he delivered before a Battle Creek audience inspired W. K. Kellogg to create the Bird Sanctuary now operated under his name by the State of Michigan. Corsan planted, stocked and for five years managed the sanctuary. In June, 1931, he established a bird sanctuary on the San Gabriel River in California.



A burr full of Chinese sweet chestnuts.



The famous Asiatic tree hazel, a very hardy tree that will grow from 120 to 200 feet high. The nuts are larger than native hazel nuts. "Michigan once had many nut trees," says Corsan. "They were cut down to make ax handles and whiffle-trees. But they can, and should, be reintroduced."

This tree is nine years old.



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**Semesan.** Effective in controlling damping-off, scab, hard rot, etc. 2 oz. can 40c; 1 lb. can \$2.50; 5 lb. can \$11.40; 25 lb. can \$52.50.

**Semesan Bel.** For use on potatoes. Controls such seed-bone disease organisms as scab, rhizoctonia, and black-leg. One pound treats 60 to 80 bushels of seed. 2 oz. 30c; 1 lb. \$1.65; 5 lbs. \$7.15; 25 lbs. \$33.25.

**Spargon.** A seed-treating material for treating harmful fungi. Improves germination. For vegetables and field seed.

**Sulphur, Dusting.** For controlling powdery mildew, blight, black spot, rust and most rose diseases.

**Sulphur, Wettable.** An improved sulphur which can also be used as a liquid spray. 98% passes through 325 mesh screen.

**TRI-GEN Spray.** Three way treatment for roses and most vegetable plants. Used and highly recommended by leading rosarians. Controls insects and fungus, assuring healthy, strong and vigorously blooming roses. E Kit 90c; A Kit \$1.50; B Kit \$4.00; C Kit \$6.00; D-Estate Kit \$20.00.

**Volck, Nursery.** An insecticide effective against mites, scale, red spider and mealy bug, and when combined with "Black Leaf 40," Volck also controls thrips, lacy-wing fly and chrysanthemum midges. 1/2 pt. can 35c; pt. can 50c; qt. can 75c.

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**Ammate Weed Killer.** Effective for control of poison ivy, ragweed, Canada Thistle, and many other troublesome weeds.

**Weedone.** The new scientific weed killer. Kills Poison Ivy, Poison Oak, Bindweed, Jap Honeysuckle, other noxious weeds. Sprayed on leaves it travels down and kills right out to the root tips. Non-irritating, non-corrosive, contains no arsenic or chlorates. Just mix in water and spray. 6 oz. can, 75c, covers 1000 sq. ft. . . . Quart, covers 5000 sq. ft. . . . Gallon, \$7.50, covers 1/2 acre. Larger quantities on request.

**Zotax.** Destroys Crab Grass in lawns without permanent injury to lawn grasses. Also kills Chickweed, Spurge, Dandelion, Plantain and many other lawn weeds. A 16 oz. bottle makes 10 gallons and treats up to 2000 sq. ft. Price: 8 oz. bottle \$1.00; 16 oz. \$1.50; 32 oz. \$2.50; 5 lb. \$4.50.

## MISCELLANEOUS

**Chaperone, Liquid.** Outdoor dog repellent that won't dissolve in rain. Harmless, long lasting. Ends the dog nuisance in your garden.

**Chaperone, Powder.** Indoor dog repellent, that keeps your dog off furniture. Almost odorless to humans. A fine help in training your dog.

**Dog-Check.** An effective proven curb to canine habits, needed by all whose neighbor's dogs "visit" and wither flowers, shrubs and saplings. One spraying usually lasts from two to three weeks—unaffected by light rains. Each package contains 6 DOG-CHECK APPLICATORS. 60c and \$1.00

**Tree Saver Bands.** Keep trees healthy and beautiful. A ready-to-use tree protector containing DDT, the wonder insecticide, with a long life sticky material to give your trees double protection. 3 1/2 feet in handy container, 75c.

**Tree Wound Paint.** A very adherent and lasting antiseptic dressing for scalding and waterproofing tree wounds.

**Biting or Chewing Insects** such as beetles, caterpillars, grasshoppers, and the like, can best be controlled by the application of poisons to the plants upon which they feed.

**Sucking Insects** such as aphids, weevils, leaf hoppers, etc., insert their beaks into the leaves, stems or fruits and suck the plant juices. Hence "stomach" poisons applied to the surface of the plant will not kill them. They must be killed by use of contact poisons.

**Scale Insects** that develop protective coverings are most easily killed by strong corrosive solutions, such as a concentrated lime-sulphur mixture, applied during late fall or winter when foliage is off the plants—and by other materials.

We have the right remedies for all these insect types.

IF YOU'RE NOT SURE WHICH REMEDY IS THE RIGHT ONE, CONSULT US. IT'S OUR JOB TO SEE THAT YOU ARE PROPERLY ARMED FOR YOUR BATTLE AGAINST INSECTS & PLANT DISEASES.

## D-X SPRAY

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1 1/2 oz. bottle.....\$ .45

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Also available in larger sizes.



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## BLACK LEAF 40

Aphis (plant lice), leafhoppers, leaf miners, mealy bugs, lace bugs, most thrips, young sucking bugs and similar insects can be controlled.

An ounce makes 6 gallons of spray effective on aphis. Full directions with package—A quick, sure, economical control for these insect pests.

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**BOTANO Garden Dust.** For use against many insects and diseases. One of the safest multi-purpose dusts that can be used. 10-oz. size also serves as handy garden duster. Includes ROTENONE and PYRETHRUM. 10-oz. Duster, 2-lb. Pkg.

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**ORTHO Garden Spray Set.** For use against more prevalent GARDEN INSECTS. Set contains 4-ounce bottle of EXTRAX Insect Spray, GREENOL Liquid Fungicide and VOLCK Oil Spray. Makes 25 gallons Multi-Purpose Spray.

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An old-time seedsman once told us:

*"Son, seedsmen seldom get rich! But they do have plenty of fun!"*

There, in a nutshell, is the reason why most good seedsmen are seedsmen.

It's one of the pleasantest occupations there is—this business of helping people to grow things.

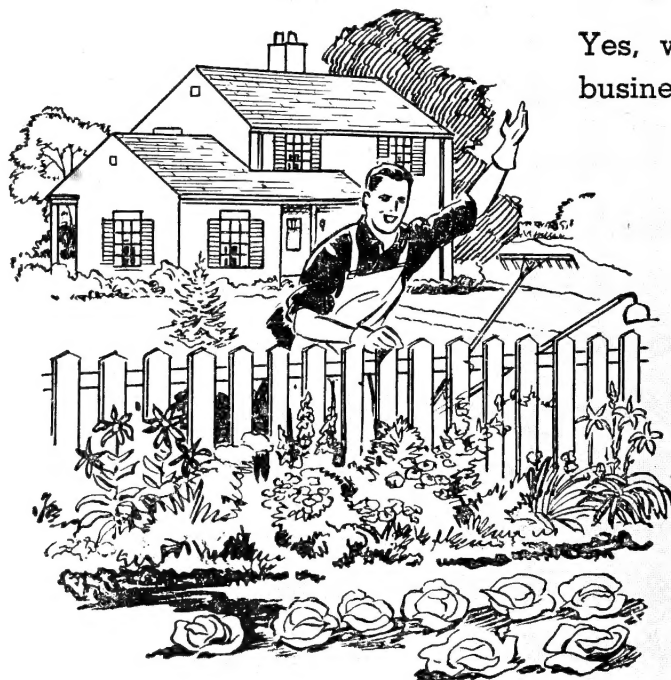
First of all, everything is so friendly. Gardeners are the friendliest folks in the world. When they come into our store, they aren't just shoppers,

they're neighbors, members of the same fraternity, fellow-workers in the great cause of making the world more beautiful and more fruitful.

What's more, the seedsman has the privilege and the pleasure of giving his customers *more real value* for their money than any other merchant in town. Where else can you get, for a *dime*, as much value as the beauty and health and sustenance that come in a packet of garden seed? Where else can you get so much good, sound counsel and help?

\* \* \*

Yes, we have a lot of fun in this business, and not the least of it is greeting our old friends at the end of each winter—and once again starting out, with them, to make old Mother Earth produce!



**We're looking forward to seeing you  
— soon, and often!**